



STIC Search Report

EIC 2600

STIC Database Tracking Number: 119142

TO: Shefali Patel
Location: PK1 4A07
Art Unit: 2621
Monday, April 12, 2004

Case Serial Number: 09/669395

From: Pamela Reynolds
Location: EIC 2600
PK2-3C03
Phone: 306-0255

Pamela.Reynolds@uspto.gov

Search Notes

Dear Shefali Patel,

Please find attached the search results for 09/669395. I used the search strategy I emailed to you to edit, which you did. I searched the standard Dialog files, Medical files, the wayback machine, and the internet.

If you would like a re-focus please let me know.

Thank you.

Pamela Reynolds



SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Shefali Patel Examiner #: 79747 Date: 4/8/04
 Art Unit: 2621 Phone Number 306-4182 Serial Number: 091669, 395
 Mail Box and Bldg/Room Location: CPI-4A07 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Image data based retrospective temporal selection of medical images

Inventors (please provide full names): Vincent Argiro; Marek Brejl; Renee Rashid;
Todd Johnson

Earliest Priority Filing Date: 9/26/2000

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please Search for claim 10.

- Make sure that the derivation of a cardiac cycle signal is from the scanned images.
- and not vice-versa.

Thank you,
 Enk

STAFF USE ONLY

Type of Search

Vendors and cost where applicable

Searcher: Ramona Reynolds NA Sequence (#) _____ STN _____
 Searcher Phone #: 306-4182 AA Sequence (#) _____ Dialog ☒
 Searcher Location: 306-0255 Structure (#) _____ Questel/Orbit _____
 Date Searcher Picked Up: 4-12-04 9 AM Bibliographic ☒ Dr. Link _____
 Date Completed: 4-20-04 11 AM Litigation _____ Lexis/Nexis _____
 Searcher Prep & Review Time: _____ Fulltext ☒ Sequence Systems _____
 Clerical Prep Time: 37 Patent Family _____ WWW/Internet ☒
 Online Time: 63 Other _____ Other (specify) my/hk

File 344:Chinese Patents Abs Aug 1985-2004/Mar
(c) 2004 European Patent Office
File 347:JAPIO Nov 1976-2003/Dec(Updated 040402)
(c) 2004 JPO & JAPIO
File 348:EUROPEAN PATENTS 1978-2004/Apr W01
(c) 2004 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20040408,UT=20040401
(c) 2004 WIPO/Univentio
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200421
(c) 2004 Thomson Derwent

| Set | Items | Description |
|-----|-------|--|
| S1 | 1389 | AU=(ARGIRO, V? OR BREJL, M? OR RASHID, R? OR JOHNSON, T? OR BREJL, M? OR ARGIRO V? OR BREJL M? OR RASHID R? OR JOHNSON T? OR BREJL M?) |
| S2 | 10 | S1 AND MEDICAL()IMAG? |
| S3 | 3 | S2 AND (CARDIAC OR HEART) |

3/5/1 (Item 1 from file: 349)
DIALOG(R) File 349:PCT FULLTEXT
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00892451 **Image available**

SELECTION OF MEDICAL IMAGES BASED ON IMAGE DATA
SELECTION D'IMAGES MEDICALES A PARTIR DE DONNEES D'IMAGE

Patent Applicant/Assignee:

VITAL IMAGES INC, Suite 200, 3300 Fernbrook Lane North, Plymouth, MN
55447, US, US (Residence), US (Nationality)

Inventor(s):

ARGIRO Vincent J , 1617 West Franklin Avenue, Minneapolis, MN 55405, US,

BREJL Marek , Apartment 211, 15720 Rockford Road, Plymouth, MN 55446, US

RASHID Renee M , 1821 Andrea Place, Santa Clara, CA 95051, US,

JOHNSON Todd , Apartment 21, 2871 South Humboldt Avenue, Minneapolis, MN
55408, US,

BREJL Milan , Kulturni 1766, Rozmov pod Radhostem 756 61, CZ

Legal Representative:

VIKSINNS Ann S (agent), Schwegman, Lundberg, Woessner & Kluth, P.O. Box
2938, Minneapolis, MN 55402, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200226125 A2-A3 20020404 (WO 0226125)

Application: WO 2001US30011 20010926 (PCT/WO US0130011)

Priority Application: US 2000669395 20000926

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU

CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP

KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU

SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06T-005/00

International Patent Class: G06T-007/20

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 8783

English Abstract

Systems and methods for deriving a **cardiac** cycle signal by selecting images of a portion of a cardiovascular system include receiving a plurality of images from a scanner that have been recorded over a period of time. The images represent one or more locations along the extent of the cardiovascular system. The images are then selected based on common criteria determined from the plurality of images and without reference to an external signal. The common criteria comprises changes in the size of a cross section of the aorta, changes in the volume of the **heart** , changes in the area of a cross section of the **heart** . In addition, the criteria can include the mean pixel difference between adjacent images.

French Abstract

L'invention concerne des systemes et des procedes permettant de deriver un signal de cycle cardiaque en selectionnant des images d'une partie d'un systeme cardiovasculaire et consistant notamment a recevoir une pluralite d'images en provenance d'un scanner, enregistrees au cours

d'une periode. Ces images representent une ou plusieurs zones situees le long du systeme cardiovasculaire. Les images sont ensuite selectionnees en fonction de criteres communs determines a partir de la pluralite d'images et sans reference a un signal externe. Ces criteres communs comprennent des variations de la taille d'une section transversale de l'aorte, des variations du volume du coeur et des variations de la region d'une section transversale du coeur. La difference moyenne des pixels entre des images adjacentes peut egalement faire partie des criteres.

Legal Status (Type, Date, Text)

Publication 20020404 A2 Without international search report and to be republished upon receipt of that report.

Examination 20021010 Request for preliminary examination prior to end of 19th month from priority date

Search Rpt 20030123 Late publication of international search report

Republication 20030123 A3 With international search report.

3/5/2 (Item 2 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00426440 **Image available**

ADVANCED DIAGNOSTIC VIEWER

VISUALISEUR PERFECTIONNE POUR DIAGNOSTICS

Patent Applicant/Assignee:

VITAL IMAGES INC,
ARGIRO Vincent J,
WEISS Andrew M,
RAINBOW Mark R,

Inventor(s):

ARGIRO Vincent J ,
WEISS Andrew M,
RAINBOW Mark R

Patent and Priority Information (Country, Number, Date):

Patent: WO 9816903 A1 19980423

Application: WO 97US18584 19971015 (PCT/WO US9718584)

Priority Application: US 96731535 19961016

Designated States: CA JP AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Main International Patent Class: G06T-011/00

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 22153

English Abstract

A computerized system and method for viewing a set of voxel data on a display device attached to a computer is disclosed. In one embodiment of the invention, the computerized system has a number of different components. A retrieve data set component retrieves the set of voxel data, the set of voxel data having already been acquired in accordance with acquisition parameters of a protocol. A protocol selector component selects the protocol in accordance with the set of voxel data retrieved, the protocol including preset adjustments for the volume-rendering of the data. An image gallery component displays one or more images of the set of voxel data in accordance with the preset adjustments of the protocol. An examination viewer component permits the changing of the preset adjustments of the protocol as to a particular image selected within the image gallery component. A report generator and viewer component generates a report based on snap shots of images taken within the examination viewer component. A print and post component prints the

generated report to a printer operatively coupled to the computer, and/or posts the report as an HTML file to a web browser for retrieval over the Internet or an intranet.

French Abstract

L'invention porte sur un systeme informatise et un procede de visualisation d'un ensemble de donnees de voxels sur un visuel relie a un ordinateur. Dans une variante, le systeme informatise comporte plusieurs composants differents. Un element de recherche d'ensembles de donnees recupere l'ensemble de donnees de voxels, deja acquis en fonction des parametres d'acquisition d'un protocole. Un element de selection de protocole selectionne le protocole en fonction de l'ensemble de donnees de voxels recupere, ledit protocole comportant des reglages preetablis rendant le volume des donnees. Un element de galerie d'images affiche une ou plusieurs images de l'ensemble de donnees de voxels en fonction des reglages preetablis du protocole. Un element de visualisation a des fins d'examen permet de modifier les reglages preetablis du protocole relativement a une image particuliere choisie dans l'element de galerie d'images. Un element generateur de rapports et de visualisation etabli un rapport sur la base d'instantanes d'images prises dans l'element de visualisation a des fins d'examen. Un element d'impression/expedition imprime le rapport ainsi cree sur une imprimante fonctionnellement reliee a l'ordinateur et/ou expedie le rapport sous forme de fichier HTML a un navigateur du WEB pour qu'il soit recupere via Internet ou un intranet.

3/5/3 (Item 1 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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014595719 **Image available**

WPI Acc No: 2002-416423/200244

XRPX Acc No: N02-327691

Selecting method for images of a portion of a cardiovascular system e.g. the heart selecting subset of images based on common criteria determined from several images without reference to external signal

Patent Assignee: VITAL IMAGES INC (VITA-N)

Inventor: ARGIRO V J ; BREJL M ; JOHNSON T ; RASHID R M

Number of Countries: 097 Number of Patents: 003

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|--------------|------|----------|----------------|------|----------|----------|
| WO 200226125 | A2 | 20020404 | WO 2001US30011 | A | 20010926 | 200244 B |
| AU 200194711 | A | 20020408 | AU 200194711 | A | 20010926 | 200252 |
| EP 1322219 | A2 | 20030702 | EP 2001975377 | A | 20010926 | 200344 |
| | | | WO 2001US30011 | A | 20010926 | |

Priority Applications (No Type Date): US 2000669395 A 20000926

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200226125 A2 E 34 A61B-005/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200194711 A A61B-005/00 Based on patent WO 200226125

EP 1322219 A2 E A61B-005/00 Based on patent WO 200226125

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

Abstract (Basic): WO 200226125 A2

NOVELTY - The method involves receiving from an image scanner several images recorded over a period of time. The images represent one or more locations along the extent of a cardiovascular system. At least a subset of the images is selected based on common criteria determined from the images and without reference to an external signal.

The portion of the cardiovascular system is the **heart** .

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for a method for ordering several images of a portion of a cardiovascular system, for a computer-readable medium and for a computerized image processing system.

USE - For **medical imaging** .

ADVANTAGE - Allows images to be filtered during image scan of patient without need for external monitoring devices such as EKG monitors.

DESCRIPTION OF DRAWING(S) - The figure shows a method for performing retrospective gating of **medical image** data.

pp; 34 DwgNo 3/5

Title Terms: SELECT; METHOD; IMAGE; PORTION; CARDIOVASCULAR; SYSTEM; **HEART**
; SELECT; SUBSET; IMAGE; BASED; COMMON; CRITERIA; DETERMINE; IMAGE;
REFERENCE; EXTERNAL; SIGNAL

Derwent Class: P31; S05; T01

International Patent Class (Main): A61B-005/00

File Segment: EPI; EngPI

?

File 5:Biosis Previews(R) 1969-2004/Apr W1
(c) 2004 BIOSIS
File 73:EMBASE 1974-2004/Apr W1
(c) 2004 Elsevier Science B.V.
File 155:MEDLINE(R) 1966-2004/Apr W1
(c) format only 2004 The Dialog Corp.
File 172:EMBASE Alert 2004/Mar W4
(c) 2004 Elsevier Science B.V.
File 188:Health Devices Sourcebook 2002
ECRI (A nonprofit agency)
File 198:Health Devices Alerts(R) 1977-2004/Apr W2
(c) 2004 ECRI-nonprft agncy

| Set | Items | Description |
|-----|---------|--|
| S1 | 3857566 | (CARDIAC? OR HEART?? OR AORTA OR HEARTBEAT? OR HEART()BEAT? OR CARDIOVASCULAR?) |
| S2 | 148515 | (IMAG? OR PICTURE? OR PHOTOS OR PHOTOGRAPH?) AND SCAN? |
| S3 | 226 | CARDIAC(3N)CYCLE?(3N)SIGNAL? |
| S4 | 0 | DERIV? AND S3 AND S2 |
| S5 | 5886 | AU=(ARGIRO, V? OR BREJL, M? OR RASHID, R? OR JOHNSON, T? OR BREJL, M? OR ARGIRO V? OR BREJL M? OR RASHID R? OR JOHNSON T? OR BREJL M?) |
| S6 | 10 | S2 AND S3 |
| S7 | 5 | RD S6 (unique items) |
| S8 | 0 | S3 AND S5 |
| S9 | 0 | CREAT? AND S3 AND "FROM"(3N)S2 |
| S10 | 18839 | S1 AND S2 |
| S11 | 411 | S10 AND CARDIAC(3N)CYCLE? |
| S12 | 92 | S11 AND SIGNAL? |
| S13 | 82 | S12 NOT S6 |
| S14 | 28 | S13 AND PY=2001:2004 |
| S15 | 54 | S13 NOT S14 |
| S16 | 26 | RD S15 (unique items) |
| S17 | 19 | S2 AND S5 |
| S18 | 19 | S17 NOT (S13 OR S6) |
| S19 | 12 | RD S18 (unique items) |

7/3,K/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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0011982147 BIOSIS NO.: 199900241807

Localization of cardiac-induced signal change in fMRI

AUTHOR: Dagli Mandeep S (Reprint); Ingeholm John E (Reprint); Haxby James V (Reprint)

AUTHOR ADDRESS: Laboratory of Brain and Cognition, NIMH, National Institutes of Health, Bethesda, MD, 20892, USA**USA

JOURNAL: NeuroImage 9 (4): p407-415 April, 1999 1999

MEDIUM: print

ISSN: 1053-8119

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Signal detection in the analysis of blood oxygen level-dependent (BOLD) functional magnetic resonance **imaging** (fMRI) may be greatly hindered by cardiac pulsatility artifacts. Vessel pulsation, cerebrospinal fluid movement, and tissue deformation are all associated with the **cardiac cycle** and all can produce MRI **signal** variance. Most cognitive fMRI studies do not utilize a method of cardiac-related noise reduction...

DESCRIPTORS:

METHODS & EQUIPMENT: functional magnetic resonance **imaging** --...

...blood oxygen level-dependent, **imaging** method, **imaging** techniques
...

...1.5-T MRI **scanner** --

7/3,K/2 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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0008299977 BIOSIS NO.: 199294001818

ECG-OPTIMIZED PHASE CONTRAST LINE- SCANNED MR ANGIOGRAPHY

AUTHOR: KOROSSEC F R (Reprint); MISTRETTA C A; TURSKE P A

AUTHOR ADDRESS: DEP MED PHYSICS, UNIV WIS-MADISON, MADISON, WIS 53792, USA
**USA

JOURNAL: Magnetic Resonance in Medicine 24 (2): p221-235 1992

ISSN: 0740-3194

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: ENGLISH

ECG-OPTIMIZED PHASE CONTRAST LINE- SCANNED MR ANGIOGRAPHY

ABSTRACT: We describe a rapid phase contrast line **scan** MR angiographic **imaging** technique. A projection angiogram is obtained by sequentially **imaging** a series of thin slices oriented perpendicular to the primary flow direction. Bipolar gradient subtraction...

...elimination of phase encoding in the depth dimension. The sequence is cardiac gated to improve **image** quality and to allow observation of hemodynamics. To further improve **image** quality, the amplitude of the bipolar gradient is altered throughout the **cardiac cycle** to provide maximum vessel **signal** at all **cardiac** phases. The ECG-gated phase

contrast line **scan** sequence has been used to **image** regions where cardiac pulsatility and respiratory motion compromise the quality of **images** obtained using standard spin warp angiographic methods.
DESCRIPTORS: HUMAN DIAGNOSTIC METHOD ELECTROCARDIOGRAPHY MAGNETIC RESONANCE **IMAGING**

7/3,K/3 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2004 BIOSIS. All rts. reserv.

0007639160 BIOSIS NO.: 199191022051

PULMONARY ARTERIOVENOUS MALFORMATIONS DIAGNOSIS BY GRADIENT-REFOCUSED MR IMAGING

AUTHOR: DINSMORE B J (Reprint); GEFTER W B; HATABU H; KRESSEL H Y
AUTHOR ADDRESS: DEP RADIOLOG, HOSP UNIV PA, 3400 SPRUCE ST, PHILADELPHIA, PA 19104, USA**USA
JOURNAL: Journal of Computer Assisted Tomography 14 (6): p918-923 1990
ISSN: 0363-8715
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

PULMONARY ARTERIOVENOUS MALFORMATIONS DIAGNOSIS BY GRADIENT-REFOCUSED MR IMAGING

...ABSTRACT: or suspected pulmonary arteriovenous malformations (AVMs) in four patients were evaluated with magnetic resonance (MR) **imaging** at 1.5 T. All lesions were **imaged** using a gradient-refocused echo pulse sequence with a 25/13 ms [repetition (TR)/echo...]

...signal intensity characteristics, and one nonvascular lesion was a carcinoid tumor. On the spin echo **images**, the AVMs showed a central signal intensity void with a peripheral rim of intermediate signal...

...distinguish from the surrounding air-filled lung, which normally generates no appreciable signal on MR **images**. The AVMs demonstrated uniform high signal intensity on the gradient echo pulse sequence and were more conspicuous, irrespective of size. With a single breath-hold **scan**, the vascular nature of the lesion could be rapidly confirmed with an acquisition time of 13 s. In three patients, the cine MR gradient echo **images** showed a pulsatile quality to the **signal** intensity in the lesion over the **cardiac cycle** similar to that within adjacent pulmonary vessels. The results of this study show a potential role for gradient echo MR **imaging** as a rapid, noninvasive method to evaluate the vascular nature of an atypical pulmonary nodule.

DESCRIPTORS: HUMAN PULMONARY NODULE MAGNETIC RESONANCE **IMAGING**

7/3,K/4 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE
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07474200 EMBASE No: 1998404571

Automated tracking of left ventricular wall thickening with intracardiac echocardiography

Spencer K.T.; Kerber R.; McKay C.
Dr. C. McKay, Univ. of Iowa Hospitals and Clinics, Department of Medicine, Section of Cardiology, 200 Hawkins Dr, Iowa City, IA 52242-1009 United States

Journal of the American Society of Echocardiography (J. AM. SOC.
ECHOCARDIOGR.) (United States) 1998, 11/11 (1020-1026)
CODEN: JSECE ISSN: 0894-7317
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 22

...by altering loading conditions and inotropic state. The backscatter signal from a single selected radial **scan** line was digitized. An automated algorithm identified the digitized endocardial and epicardial **signals** , tracked them throughout the **cardiac cycle** , and plotted the spatial difference over time. Pressure-thickness loops were generated. Results. End-systolic...

...thickening from the unedited, unsmoothed signals compared favorably with independent manual analysis of transthoracic echocardiographic **images** of the same region: $r = 0.89$ for wall thickness and 0.81 for systolic...

MEDICAL DESCRIPTORS:

heart left ventricle wall; **image** processing; **image** quality; **image** analysis; dog; nonhuman; animal experiment; article

7/3,K/5 (Item 2 from file: 73)

DIALOG(R)File 73:EMBASE

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01860383 EMBASE No: 1981167542

Special ultrasonic methods for the assessment and imaging of systemic arterial disease

Woodcock J.P.

Dept. Med. Phys., Bristol Gen. Hosp., Bristol United Kingdom

British Journal of Anaesthesia (BR. J. ANAESTH.) (United Kingdom) 1981
, 53/7 (719-730)

CODEN: BJANA

DOCUMENT TYPE: Journal

LANGUAGE: ENGLISH

Special ultrasonic methods for the assessment and imaging of systemic arterial disease

...ultrasonic techniques lies in the appearance of the blood vessels on the real-time B- **scan** , Doppler **image** in three dimensions, and in the variation of the doppler-shift **signal** over the **cardiac cycle** . This information is discussed in detail with a view to determining the best approach to...

?

16/3,K/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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0012276889 BIOSIS NO.: 199900536549

Prospective MR signal -based cardiac triggering

AUTHOR: Vasanawala Shreyas S (Reprint); Sachs Todd S; Brittain Jean H;
Meyer Craig H; Nishimura Dwight G
AUTHOR ADDRESS: Department of Electrical Engineering, 120 Durand Building,
Stanford, CA, 94305-9510, USA**USA
JOURNAL: Magnetic Resonance in Medicine 42 (1): p82-86 July, 1999 1999
MEDIUM: print
ISSN: 0740-3194
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

Prospective MR signal -based cardiac triggering

ABSTRACT: A **cardiac** motion compensation method using magnetic resonance **signal** -based triggering is presented. The method interlaces a triggering pulse sequence with an **imaging** sequence. The triggering sequence is designed to measure aortic blood velocity, from which **cardiac** phase can be inferred. The triggering sequence is executed repeatedly and the acquired data processed after each sequence iteration. When the desired phase of the **cardiac cycle** is detected, data are acquired using the **imaging** sequence. A **signal** -processing unit of a conventional **scanner** is used to process the triggering data in real time and issue triggering commands. Alternatively...

...techniques can be modified instantaneously to optimize triggering. The technique is demonstrated with coronary artery **imaging** using both conventional two-dimensional Fourier transform **scans** and spiral trajectories.

DESCRIPTORS:

MAJOR CONCEPTS: **Cardiovascular** System...

...ORGANISMS: PARTS ETC: **heart** --

METHODS & EQUIPMENT: **cardiac** motion compensation method...

... **imaging** method...

...magnetic resonance **imaging** --...

... **imaging** method, **imaging** techniques
MISCELLANEOUS TERMS: **signal** processing...

...MR **signal** -based **cardiac** triggering

16/3,K/2 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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0011817415 BIOSIS NO.: 199900077075

Echocardiographic functional images based on tissue velocity information

AUTHOR: Brodin Lars-Ake (Reprint); Linden Jan Van Der; Olstad Bjorn
AUTHOR ADDRESS: Karolinska Inst., Dep. Clinical Physiology, Huddinge Univ.
Hosp., S-141 86 Huddinge/Stockholm, Sweden**Sweden
JOURNAL: Herz 23 (8): p491-498 Dec., 1998 1998
MEDIUM: print

ISSN: 0340-9937
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

Echocardiographic functional images based on tissue velocity information

...ABSTRACT: values at discrete points. The information is stored in an interfoiled format with gray scale **imaging** during one or several **cardiac cycle** at a high temporal resolution, > 60 Hz, giving **signals** that tolerate mathematical processing as derivation, integration and Fourier analysis of velocity profiles without distortions...

...software enables the possibility to analyze multiple velocity profiles from any localization within the acquired **scanned** sector. The myocardial tissue velocity direction and color-coded numerical value can be computed along...

...can also be presented in several new functional modes as color-coded running cineloops: phase **imaging** , time delay **imaging** , amplitude **imaging** , acceleration **imaging** , instantaneous phase **imaging** , wrapped phase **imaging** . The software also allows color or C-mode presentation of tissue contraction and expansion. This...

...diseased myocardial tissue. This article presents several applications of the software in normals and in **cardiac** patients.

DESCRIPTORS:

MAJOR CONCEPTS: **Cardiovascular** Medicine...

...ORGANISMS: PARTS ETC: circulatory system, functional **imaging**

...METHODS & EQUIPMENT: diagnostic method, **imaging** method

MISCELLANEOUS TERMS: tissue velocity **imaging** software...

...C-mode of instantaneous phase modality, strain rate **imaging** modality, tissue **imaging** modality, time delay **imaging** modality, wrapped phase **imaging** modality, velocity curves of tissue velocity information modality, power **imaging** modality, phase **imaging** modality, instantaneous phase **imaging** modality, C-mode of tissue velocity information modality, acceleration **imaging** modality, amplitude **imaging** modality

16/3,K/3 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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0010922925 BIOSIS NO.: 199799556985

Common k-space acquisition: A method to improve myocardial grid-tag contrast

AUTHOR: Doyle Mark (Reprint); Walsh Edward G; Foster Robert E; Pohost Gerald M

AUTHOR ADDRESS: Univ. Alabama Birmingham, D201J Diabetes Education, Res. Building, 1808 Serventh Ave. South, Birmingham, AL 35294-0012, USA**USA

JOURNAL: Magnetic Resonance in Medicine 37 (5): p754-763 1997 1997

ISSN: 0740-3194

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

...ABSTRACT: tag acquisitions employing SPAMM encoding is the relatively rapid loss of tag contrast over the **cardiac cycle** . Acquisition

schemes that apply line tags produce prolonged tag contrast compared with directly excited grid...

...tag direction. There are several disadvantages associated with this approach, including the requirement to avoid **signal** fold-over and that fat shift artifacts appear in different directions in each line-tag...
...does not require interchanging the read and phase encoding gradients and does not extend the **scan** time compared with a conventional grid-tag acquisition. Additionally, the means of generating grid tags...

...ratio compared a line-tag set. Computer simulations are presented along with phantom and volunteer **scans** .

DESCRIPTORS:

MAJOR CONCEPTS: **Cardiovascular** System...

MISCELLANEOUS TERMS: **CARDIAC IMAGING** ; ...

... **IMAGING** METHOD

16/3,K/4 (Item 4 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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0009816614 BIOSIS NO.: 199598284447

Fast three dimensional magnetic resonance imaging

AUTHOR: Irarrazabal Pablo; Nishimura Dwight G (Reprint)

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JOURNAL: Magnetic Resonance in Medicine 33 (5): p656-662 1995 1995

ISSN: 0740-3194

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

Fast three dimensional magnetic resonance imaging

ABSTRACT: To reduce the **scan** time in three-dimensional (3D) **imaging** , the authors consider alternative trajectories for traversing kappa-space. They differ from traditional 3D trajectories...

...in that they employ time-varying gradients allowing longer readouts and in turn a reduced **scan** time. Some of these trajectories reduce by an order of magnitude the number of excitations compared with 3DFT and provide flexibility for trading off **signal** -to-noise ratio for **scan** time. Other concerns are the minimum echo time and flow/motion properties. As examples, the...

...using a stack of spirals in 3D k-space; and a 3D movie of the **heart** (20 times 20 times 20 cm field of view, 2 times 2 times 2 mm resolution, and 16 time frames per **cardiac cycle**) acquired in 11 min using a cones trajectory.

16/3,K/5 (Item 5 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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0009700252 BIOSIS NO.: 199598168085

Noninvasive assessment of myocardial perfusion and metabolism: Feasibility of registering gated MR and PET images

AUTHOR: Sinha Shantanu (Reprint); Sinha Usha; Czernin Johannes; Porenta

Gerold; Schelbert Heinrich R
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JOURNAL: AJR American Journal of Roentgenology 164 (2): p301-307 1995 1995
ISSN: 0361-803X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

**Noninvasive assessment of myocardial perfusion and metabolism: Feasibility
of registering gated MR and PET images**

...ABSTRACT: vivo noninvasive assessment of myocardial perfusion and
metabolism, is hampered by limited resolution and low **signal** -to-noise
ratio. **Cardiac MR imaging**, on the other hand, provides excellent
soft-tissue contrast. This study examines the feasibility of...
...the three-dimensional superimposition of regional myocardial blood flow
or substrate metabolism as depicted in **cardiac PET images** on
comparable **MR images** at the same **cardiac** phase and spatial location.
SUBJECTS AND METHODS: Three-dimensional, gated PET and **MR images** of the
heart were acquired at different phases of the **cardiac cycle** from
six normal volunteers and from one patient with coronary artery disease
that had been...

...using morphologic operators was developed to contour the left ventricle
on the **MR and PET images**. A three-dimensional surface fitting technique
was used to register the left ventricle surfaces. The accuracy of
registration was estimated using 80 internal landmarks from six volunteer
scans. RESULTS: These techniques yielded **PET images** resliced along
the same spatial location and orientation as the **MR images** both in the
transaxial and short-axis views. The average residual, a measure of the
...

...fit, was 26 (+- 5.6) for the systolic and 13 (+- 6.1) for the diastolic
images compared with an increase of that index from 9.3 at the best fit
to 13.2 when the **images** were deliberately misaligned by 2 mm in each of
two directions. We verified that **MR and PET images** could be aligned
with an accuracy of 1.95 mm (+- 1.6), which was approximately...
...to the larger of the two pixel sizes (i.e., 1.6 mm on **PET images**).
CONCLUSION: **MR and PET images** of the **heart** at identical **cardiac**
phases can be accurately superimposed. Both transaxial and short-axis
views can be obtained, the...

...among contractile function, blood flow, and substrate metabolism,
especially when these are altered regionally in **cardiac** diseases.

DESCRIPTORS:

MAJOR CONCEPTS: **Cardiovascular** Medicine...

... **Cardiovascular** System

MISCELLANEOUS TERMS: **CARDIAC** BLOOD FLOW...

...MAGNETIC RESONANCE **IMAGING** ;

16/3,K/6 (Item 6 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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0009269766 BIOSIS NO.: 199497291051
Real time blood flow imaging by spiral scan phase velocity mapping

AUTHOR: Gatehouse P D (Reprint); Firmin D N; Collins S; Longmore D B
AUTHOR ADDRESS: Magnetic Resonance Unit, Royal Brompton Natl. Heart Lung
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JOURNAL: Magnetic Resonance in Medicine 31 (5): p504-512 1994 1994
ISSN: 0740-3194
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

Real time blood flow imaging by spiral scan phase velocity mapping

...ABSTRACT: rapid spiral k-space sampling, combined with phase velocity mapping, for real time flow velocity **imaging**. The performance of the technique is assessed on phantoms for both through-plane and in...

...measured using a bucket and stopwatch. One advantage of the technique is that flow related **signal** loss is minimal due to the early acquisition of the center of k-space data...

...studies involved cine velocity mapping in normal volunteers; aortic blood flow waveforms acquired by spiral **scanning** in two **cardiac cycles** compared well with data from a conventional gradient-echo sequence. Potential applications of the method...

DESCRIPTORS:

MAJOR CONCEPTS: **Cardiovascular** System...

MISCELLANEOUS TERMS: ECHO-PLANAR **IMAGING** ; ...

...MAGNETIC RESONANCE **IMAGING** ;

16/3,K/7 (Item 7 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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0008253924 BIOSIS NO.: 199293096815

MR ANGIOGRAPHY WITH PULSATILE FLOW

AUTHOR: DE GRAAF R G (Reprint); GROEN J P

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NETHERLANDS**NETHERLANDS

JOURNAL: Magnetic Resonance Imaging 10 (1): p25-34 1992

ISSN: 0730-725X

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: ENGLISH

ABSTRACT: To achieve acceptable **scan** times, current multiple thin slice and 3D MR angiography (MRA) methods usually are based on...

...consequence of pulsatile blood flow for the 2D inflow method. Arterial blood flow and blood **signal** intensity versus **cardiac** phase were studied by a 2D phase based method with retrospective **cardiac** synchronization. Such studies were performed in different parts of the body and with different excitation...

...these multiphase studies was used to simulate alternative inflow MRA data acquisition strategies to improve **image** quality, without the excessive increase in **scan** time implied by standard **cardiac** triggering. The alternatives investigated were data collection during part of the **cardiac cycle** and **cardiac** -ordered phase encoding. Simulation results indicate that the best results are obtained by a combination...

DESCRIPTORS: HUMAN PULSATILE BLOOD FLOW ARTERIAL BLOOD FLOW BLOOD **SIGNAL**
INTENSITY **CARDIAC** PHASE **CARDIAC** SYNCHRONIZATION METHOD MAGNETIC
RESONANCE **IMAGING** PHILIPS GYROSCAN SYSTEM
DESCRIPTORS:

MAJOR CONCEPTS: **Cardiovascular** System...

16/3,K/8 (Item 8 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)
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0008230940 BIOSIS NO.: 199293073831

FAST ANGIOGRAPHY USING SELECTIVE INVERSION RECOVERY

AUTHOR: WANG S J (Reprint); NISHIMURA D G; MACOVSKI A

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JOURNAL: Magnetic Resonance in Medicine 23 (1): p109-121 1992

ISSN: 0740-3194

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: ENGLISH

...ABSTRACT: enhancement of selective inversion recovery that allows us to obtain high-resolution angiograms in reduced **scan** time. By applying several read pulses following each tagging inversion pulse, we can obtain several phase encodes in each **cardiac cycle**, thereby reducing the total **scan** time required for a complete **image**. Using this technique, high-resolution angiograms can be obtained in as little as 15 s...

...collected in short bursts separated by long pauses, care must be taken to maintain uniform **signal** weighting across phase-encoding views and avoid ghosting. We use an increasing flip-angle sequence to equalize **signal** level weighting across the readouts. The phase encodes are collected in a special order to minimize ghosting. A postprocessing technique is used to further reduce **signal** nonuniformity between phase encodes. This fast angiography technique can significantly reduce artifacts due to patient motion during **scanning** and is especially useful for **imaging** vasculature in regions of the body where respiratory motion is a problem.

DESCRIPTORS:

MAJOR CONCEPTS: **Cardiovascular** System...

16/3,K/9 (Item 9 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)
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0007686804 BIOSIS NO.: 199191069695

MULTIPLE-READOUT SELECTIVE INVERSION RECOVERY ANGIOGRAPHY

AUTHOR: WANG S J (Reprint); NISHIMURA D G; MACOVSKI A

AUTHOR ADDRESS: MAGNETIC RESONANCE SYSTEMS RES LAB, 120 DURAND, STANFORD
UNIV, STANFORD, CALIF 94305, USA**USA

JOURNAL: Magnetic Resonance in Medicine 17 (7): p244-251 1991

ISSN: 0740-3194

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: ENGLISH

...ABSTRACT: collection of several angiograms within the same acquisition time previously required to obtain a single **image**. In basic SIR, a

single readout is performed after the tagging inversion pulse. In multiple...

...a set of multiple projection-angle angiograms, or, by appropriately spacing the readouts throughout the **cardiac cycle**, we can obtain a set of time-resolved angiograms. This technique allows us to obtain additional spatial or temporal information without increasing total **scan** time. A sequence of increasing flip-angle read pulses is used to maintain a constant **signal** level across the **images**. A trade-off exists between SNR and the number of **images** acquired.

DESCRIPTORS:

MAJOR CONCEPTS: **Cardiovascular** Medicine...

... **Cardiovascular** System

16/3,K/10 (Item 10 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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0007138240 BIOSIS NO.: 199089056131

NONINVASIVE DETERMINATION OF CORONARY ARTERY BYPASS GRAFT PATENCY BY CINE MAGNETIC RESONANCE IMAGING

AUTHOR: AURIGEMMA G P (Reprint); REICHEK N; AXEL L; SCHIEBLER M; HARRIS C; KRESSEL H Y

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JOURNAL: Circulation 80 (6): p1595-1602 1989

ISSN: 0009-7322

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: ENGLISH

NONINVASIVE DETERMINATION OF CORONARY ARTERY BYPASS GRAFT PATENCY BY CINE MAGNETIC RESONANCE IMAGING

ABSTRACT: Cine magnetic resonance **imaging** (MRI) is a gradient-recalled, retrospectively gated, fast- **scan** technique that depicts laminar flowing blood as bright **signal** and has been proposed as a useful method for determination of coronary artery bypass graft...

...12 left circumflex (Cx), and 12 right coronary (RCA) grafts. After localizing spin-echo coronal **images** were obtained, multiple axial multislice interleaved cine MRI acquisitions, each consisting of two to four...

...ventricle. Each acquisition took 5-8 minutes with a subsequent 5-10 minutes of computer **image** reconstruction. Total study time per patient was 50-75 minutes. Known to cine MRI interpreters...

...but not the angiographic findings. A graft was called patent if a bright graft flow **signal**, not corresponding to a normal vessel, was identified on multiple frames at multiple levels abutting the great vessels or epicardial surface of the **heart**. Angiographically, there were 33 patent grafts, of which 29 were identified as patent by cine...

...sensitivity, 88%). All false-negatives were encountered in the first seven patients studied, when fewer **image** plane sections, lower frame rates, and less sophisticated software were used. Patent grafts containing stenoses (n = 4) or supplying stenotic distal coronary vessels (n = 6) gave flow **signal** qualitatively similar to that of normal grafts

supplying normal distal vessels. The 12 angiographically occluded...
...or contrast injection and, unlike spin-echo MRI, identifies patent CABGs
as a positive flow **signal** or multiple slices at multiple points in the
cardiac cycle. Thus, it minimizes the risk of false-positives.
Further, it is possible to derive blood flow velocity and may be possible
to directly **image** graft stenoses with tomographic, angiographic
projection, or volume acquisition gradient echo methods the future. Thus

DESCRIPTORS:

...MAJOR CONCEPTS: **Cardiovascular** Medicine...

... **Cardiovascular** System

16/3,K/11 (Item 11 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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0006586689 BIOSIS NO.: 198987034580

FAST LIMITED FLIP ANGLE MR SUBTRACTION ANGIOGRAPHY

AUTHOR: TASCIYAN T A (Reprint); LEE J N; RIEDERER S J; DECASTRO J B;
HEDLUND L W; HERFKENS R J; SPRITZER C E

AUTHOR ADDRESS: DEP RADIOLOGY, DUKE UNIV MED CENTER, DURHAM, NORTH CAROLINA
27710, USA**USA

JOURNAL: Magnetic Resonance in Medicine 8 (3): p261-274 1988

ISSN: 0740-3194

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: ENGLISH

ABSTRACT: A fast MR angiography method is introduced that is capable of
generating difference **images** of blood vessels in **scan** time of 10-20
s. This is an order of magnitude faster than many previous methods. The
fundamental concept of this approach is to use **cardiac** gating and
acquire several phase encodings at least twice during each **cardiac**
cycle using limited flip angles (LFAs) and repetition times in the 20 to
50 ms range...

...encoding acquired during diastole are subtracted from those acquired
during systole to generate the difference **image**. The contrast in the
difference **image** is due both to the influx of unsaturated spins and to
the loss of phase...

...systolic blood moving at high velocity along a magnetic gradient. The
systolic peak of the **cardiac cycle** is determined during
reconstruction by shifting the systolic and diastolic "windows" until the
difference **signal** is maximized. Ghost artifacts due to pulsatile flow
are eliminated by a phase reordering technique...

...concept to those developed for suppression of breathing artifacts.
Arteries in thick slices are successfully **imaged** and initial in vivo
results are presented.

DESCRIPTORS: HUMAN MAGNETIC RESONANCE **CARDIAC** GATING SYSTOLE **IMAGE**

MINUS DIASTOLE **IMAGE** PHASE REORDERING TECHNIQUE

DESCRIPTORS:

MAJOR CONCEPTS: **Cardiovascular** Medicine...

16/3,K/12 (Item 12 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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0002170557 BIOSIS NO.: 197764018913

STOP-ACTION CARDIAC COMPUTED TOMOGRAPHY

AUTHOR: HARELL G S; GUTHANER D F; BREIMAN R S; MOREHOUSE C C; SEPPI E J;
MARSHALL W H; WEXLER L

JOURNAL: Radiology 123 (2): p515-517 1977

ISSN: 0033-8419

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: Unspecified

STOP-ACTION CARDIAC COMPUTED TOMOGRAPHY

ABSTRACT: Computed tomographic (CT) **cardiac imaging** in vivo was hampered by motion of the **heart** during its **cardiac cycle**. A technique of post data-acquisition correlation of the angular projection data using the [human] ECG as a reference **signal** is described. This method produced 7 stop-action **images** of the **heart** and resulted in delineating morphological detail not recongizable on the conventional CT **scan**.

DESCRIPTORS:

MAJOR CONCEPTS: **Cardiovascular System...**

16/3,K/13 (Item 1 from file: 73)

DIALOG(R)File 73:EMBASE

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07384972 EMBASE No: 1998242352

Effects of physiologic motion of the human brain upon quantitative sup 1H- MRS: Analysis and correction by retrogating

Felblinger J.; Kreis R.; Boesch C.

R. Kreis, Dept. of MR Spectroscopy/Methodology, MR Center 1, Inselspital and University, CH-3010 Berne Switzerland

NMR in Biomedicine (NMR BIOMED.) (United Kingdom) 1998, 11/3 (107-114)

CODEN: NMRBE ISSN: 0952-3480

DOCUMENT TYPE: Journal; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 29

Signal loss and absolute quantitation errors in sup 1H-MRS (localized proton MR spectroscopy) because of physiologic brain motion are analyzed quantitatively. **Cardiac** and respiratory related motion lead to substantial phase dispersion when using a standard, short echo-time STEAM sequence. The loss in **signal** area varies from 6-7% with TM (middle interval time in a STEAM sequence) = 13.7 ms, to 25-39% with TM = 100 ms. The variation in **signal** area because of motion-related phase dispersion is up to 16% for TM = 100 ms. The **signal** phase as a function of the position in the **cardiac cycle** is shown to be reproducible. Maximal differences in the **signal** phase are over 180degreefor long TMs. ECG-gating reduces the phase dispersion considerably but introduces...

...retrogate subsequent untriggered acquisitions with the water suppression activated, if the time points in the **cardiac cycle** are recorded for each acquisition. The gain in **signal** intensity is between 3 and 21%. For absolute quantification via brain water, this phase analysis has the important consequence that reference **scans** must be phased individually before co-adding, otherwise metabolite concentrations may be severely overestimated.

MEDICAL DESCRIPTORS:

*proton nuclear magnetic resonance; *gated **imaging** ; *electroencephalogram
; *body movement
heart cycle; breathing pattern; brain; motion; article; priority journal

16/3,K/14 (Item 2 from file: 73)

DIALOG(R)File 73:EMBASE

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06849399 EMBASE No: 1997131987

Common kappa-space acquisition: A method to improve myocardial grid-tag contrast

Doyle M.; Walsh E.G.; Foster R.E.; Pohost G.M.

Dr. M. Doyle, University of Alabama at Birmingham, D2OIJ Diabetes Educ.
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Magnetic Resonance in Medicine (MAGN. RESON. MED.) (United States)
1997, 37/5 (754-763)

CODEN: MRMEE ISSN: 0740-3194

DOCUMENT TYPE: Journal; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 13

...tag acquisitions employing SPAMM encoding is the relatively rapid loss of tag contrast over the **cardiac cycle** . Acquisition schemes that apply line tags produce prolonged tag contrast compared with directly excited grid...

...tag direction. There are several disadvantages associated with this approach, including the requirement to avoid **signal** fold-over and that fat shift artifacts appear in different directions in each line-tag...

...does not require interchanging the read and phase encoding gradients and does not extend the **scan** time compared with a conventional grid-tag acquisition. Additionally, the means of generating grid tags...

...ratio compared a line-tag set. Computer simulations are presented along with phantom and volunteer **scans** .

MEDICAL DESCRIPTORS:

* **heart** cycle; * **heart** movement; * **image** quality
article; artifact; contrast enhancement; human; human experiment; normal human; **signal** noise ratio

16/3,K/15 (Item 3 from file: 73)

DIALOG(R)File 73:EMBASE

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06511779 EMBASE No: 1996177128

Technical note - Approach to myocardial perfusion with echo planar imaging

Debatin J.F.; McKinnon G.C.; Schulthess G.K.V.

Magnetic Resonance Materials in Physics, Biology, and Medicine (MAGN. RESON. MATER. PHYS. BIOL. MED.) (United States) 1996, 4/1 (7-11)

CODEN: MRBME ISSN: 1352-8661

DOCUMENT TYPE: Journal; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

Technical note - Approach to myocardial perfusion with echo planar

imaging

Purpose: To evaluate the feasibility of MRI-based myocardial first pass contrast perfusion **imaging** with a multi-shot echo planar **imaging** (EPI) technique. Subjects and methods: A non-sequential (ECG-triggered) gradient echo two-shot EPI acquisition strategy capable of covering the entire **heart** in contiguous 10-mm sections every two **cardiac cycles** with an in-plane resolution of 1.56 x 1.56 mm was implemented on a 1.5 T Signa Advantage **Scanner** equipped with prototype hardware for non-resonant EPI in the transverse plane. The **heart** of a single volunteer was studied prior to and following the intravenous bolus application of...

...contrast agent (Gd-DOTA, 0.2 mmol/kg). Results: Twelve contiguous transaxial 10-mm EPI **images** were obtained every two RR intervals for a total of 40 s. The myocardial contrast perfusion study was technically adequate. Contrast caused a **signal** loss of 87% in the right and 67% in the left ventricle and 59% in the myocardium. Conclusion: First-pass myocardial perfusion **imaging** with a gradient echo, two-shot echo planar **imaging** strategy is feasible.

MEDICAL DESCRIPTORS:

* **heart** muscle perfusion

article; contrast enhancement; controlled study; diagnostic **imaging** ;
heart left ventricle; **heart** right ventricle; human; priority journal

16/3,K/16 (Item 4 from file: 73)

DIALOG(R)File 73:EMBASE

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06220681 EMBASE No: 1995256943

**Effect of the cardiac cycle on topographic measurements using
confocal scanning laser tomography**

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Graefe's Archive for Clinical and Experimental Ophthalmology (GRAEFE'S
ARCH. CLIN. EXP. OPHTHALMOL.) (Germany) 1995, 233/9 (568-572)

CODEN: GACOD ISSN: 0721-832X

DOCUMENT TYPE: Journal; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

**Effect of the cardiac cycle on topographic measurements using
confocal scanning laser tomography**

Background: This study was carried out to investigate the effect of the **cardiac cycle** on topographic measurements of the optic nerve head and peripapillary retina with confocal **scanning** laser tomography. Methods: The sample comprised 25 healthy subjects (mean age 40.44 years, range 23-67 years). Using a random crossover design, we obtained a set of three **images** using the Heidelberg Retina Tomograph (Heidelberg Engineering GmbH, Heidelberg, Germany) under each of two conditions. In the first, the **images** were obtained normally, while in the second, **image** acquisition was pulse-synchronised using an electrocardiographic **signal**. We compared the variability of topographic measurements under the two conditions in the whole **image**, in the optic nerve head and in the peripapillary retina free of visible vessels. Results: Nineteen subjects (76%) showed a decrease in variability in the whole **image** under the pulse-synchronised condition. The respective numbers for the optic nerve head and peripapillary...

...The decrease in variability ranged widely, with a mean of 13.62% in the

whole **image** , 12.26% in the optic nerve head and 18.51% in the peripapillary retina. These...

...There was no relationship between the decrease in variability and age, intraocular pressure, blood pressure, **heart** rate or the area of the **image** occupied by blood vessels. Conclusion: Detecting structural change depends on the accurate assessment of each subject's variability. Because the **cardiac cycle** confounds this assessment by varying and unpredictable amounts, it may be necessary to obtain pulse-synchronised **images** routinely.

MEDICAL DESCRIPTORS:

* **heart** cycle; *laser; *tomography

adult; aged; article; clinical trial; controlled study; crossover procedure ; diagnostic accuracy; diagnostic **imaging** ; human; human experiment; measurement; normal human; optic nerve; priority journal; randomized controlled trial; retina; topography

MEDICAL TERMS (UNCONTROLLED): confocal **scanning** laser tomography

16/3,K/17 (Item 5 from file: 73)

DIALOG(R)File 73:EMBASE

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06024584 EMBASE No: 1995054719

Evaluation of myocardial motion tracking with cine-phase contrast magnetic resonance imaging

Pelc L.R.; Sayre J.; Yun K.; Castro L.J.; Herfkens R.J.; Miller D.C.; Pelc N.J.

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Investigative Radiology (INVEST. RADIOL.) (United States) 1994, 29/12 (1038-1042)

CODEN: INVRA ISSN: 0020-9996

DOCUMENT TYPE: Journal; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

Evaluation of myocardial motion tracking with cine-phase contrast magnetic resonance imaging

...cine-PC) magnetic resonance (MR) velocity data, was compared with directly visualized motion of MR **signal** voids caused by implanted tantalum markers in anesthetized dogs. METHODS. Magnetic resonance **imaging** (MRI) data were electrocardiogram-gated and divided into 16 phases per **cardiac cycle** . Myocardial trajectories as a function of time in the **cardiac cycle** were measured using both methods for four to seven markers in each of eight animals...

...mm (27.5% of the peak displacement). The difference was less if three separate MR **scans** were used to measure each velocity component in the cine-PC method. This improvement is...

MEDICAL DESCRIPTORS:

* **heart** movement

animal experiment; article; contrast enhancement; dog; **heart** cycle; **image** analysis; **image** display; nonhuman; nuclear magnetic resonance **imaging** ; priority journal

16/3,K/18 (Item 6 from file: 73)

DIALOG(R)File 73:EMBASE

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04917381 EMBASE No: 1992057597

Single-shot magnetic resonance imaging : Applications to angiography
Crawley A.P.; Cohen M.S.; Yucel E.K.; Poncelet B.; Brady T.J.
Massachusetts Gen. Hospital, NMR Center, Thirteenth Street, Charlestown,
MA 02129 United States
CardioVascular and Interventional Radiology (CARDIOVASC. INTERVENT.
RADIOL.) (United States) 1992, 15/1 (32-42)
CODEN: CARAD ISSN: 0174-1551
DOCUMENT TYPE: Journal; Review
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

Single-shot magnetic resonance imaging : Applications to angiography

Recently developed technologies that allow the collection of magnetic resonance **imaging** (MRI) in as little as 26 msec have been explored in their application to angiography. Advantages are demonstrated in **scan** time reduction, insensitivity to patient motion (especially in abdominal applications), flow quantification, and temporal resolution...

...shot techniques are inherently resistant to flow dephasing during acquisition that allow for sustained high **signal** intensities to be achieved when **images** must be combined through the **cardiac cycle**. Such high temporal resolution **scans** may be utilized for the collection of time-resolved angiograms. With these techniques we demonstrate...

...technique, coupled with its overall short acquisition time, allows us to incorporate angiography into other **imaging** protocols without adding significant time burdens. Results to date are promising for further improvements in spatial resolution, without extension of **scan** time.

MEDICAL DESCRIPTORS:

*angiography; *nuclear magnetic resonance **imaging**

SECTION HEADINGS:

014 Radiology

018 **Cardiovascular** Diseases and **Cardiovascular** Surgery

16/3,K/19 (Item 7 from file: 73)

DIALOG(R)File 73:EMBASE

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01652157 EMBASE No: 1980146643

The DSR: A high temporal resolution volumetric roentgenographic CT scanner

Kinsey J.H.; Robb R.A.; Ritman E.L.; Wood E.H.
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Minn. 55401 United States
Herz (HERZ) (Germany) 1980, 5/3 (177-188)
CODEN: HERZD
DOCUMENT TYPE: Journal
LANGUAGE: ENGLISH SUMMARY LANGUAGE: GERMAN

The DSR: A high temporal resolution volumetric roentgenographic CT scanner

The dynamic spatial reconstructor (DSR) is a high temporal resolution volumetric roentgenographic computer tomographic **scanner**. Specifically for the **heart**, it promises to yield accurate, non-invasive, three-dimensional representations throughout the **cardiac cycle** at a high enough repetition rate and with sufficient spatial and contrast

resolution to be able to delineate and measure the endocardium, epicardium and coronary vessels. Optimal **imaging** properties, characterized by the temporal, spatial and contrast resolution, represent the basis of the system's capability to produce stop-action **images** of the left ventricular wall during systole which moves at about 10 cm/s maximum...

...spatial resolution. Modern technology has enabled development of the essential components consisting of: a rotating **scanner** with 28 X-ray tubes, positioned at intervals of 6degree over 162degree of the rotating...

...mus every 1/60 of a sec; a hemicylindrical, rare earth, fluorescent screen with superior **signal** intensity build-up and decay lag characteristics, extending around 184degree at a radius of 58 cm for **image** formation; video cameras with geometric circuits associated with the sweep circuitry permitting correction of total geometric distortion in the **image** from all sources to approximately 0.25%; an 8-bit microprocessor for control of the system, and a multiplex system for composite **imaging** of the **images** from groups of four cameras, 4:1, into 60 video lines from each of the four. Functionally there are three modes of normal operation: **scanning** with subsequent transfer of the video **images** to a video disc system for temporary storage; reconstruction, augmented by special hardware to enhance...

...precise extent of anatomical structures and the ability to make accurate geometric measurements throughout the **cardiac cycle** which may used to provide an indirect means for assessing the length/tension relationship in a normal or diseased functioning **heart**. The ability to visualize and measure variations in shape, size and density will permit mathematical assessment of specific structures for detection of abnormalities such as congenital **heart** disease or, in conjunction with peripheral injections of roentgenographic contrast material, localized reduction of luminal...

...grid, incorporation of an electronic line averager and employment of logarithmic amplifiers on each video **signal**, are being addressed before the system achieves operational status. It is anticipated that the DSR...
MEDICAL DESCRIPTORS:

*computer assisted tomography; * **heart**

SECTION HEADINGS:

018 **Cardiovascular** Diseases and **Cardiovascular** Surgery
014 Radiology
027 Biophysics, Bioengineering and Medical Instrumentation

16/3,K/20 (Item 8 from file: 73)

DIALOG(R)File 73:EMBASE

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00778127 EMBASE No: 1977123539

Cardiac reconstruction imaging in relation to other ultrasound systems and computed tomography

Gramiak R.; Waag R.C.

Dept. Diagn. Radiol., Sch. Med. Dent., Univ. Rochester, N.Y. 14642
United States

American Journal of Roentgenology (AM. J. ROENTGENOL.) 1976, 127/1
(91-99)

CODEN: AJROA

DOCUMENT TYPE: Journal

LANGUAGE: ENGLISH

Cardiac reconstruction imaging in relation to other ultrasound

systems and computed tomography

A computer controlled system is described for the generation of two dimensional motion **images** of the **heart**. A standard B **scanner** is used to **scan** the area of interest during 40-50 **cardiac cycles**, and the computer controls recording of the ultrasound **signals**, beam position indicators, and physiologic data. The ultrasonic echoes are reformatted by the computer into sequential frames by reference to the ECG. **Images** are displayed in motion on a large monitor, and hard copy is obtained on 35 mm cine film. Off line computer controlled **signal** processing is utilized for **image** enhancement of clinical studies. Real time systems for the production of two dimensional motion **images** of the **heart** are discussed and compared to computer reconstruction of ultrasound **cardiac imaging**. The advantages of ultrasound **imaging** of the **heart** and other body areas are presented, and perspectives are offered by which the present and...

...to computed tomography. It is concluded that ultrasound will remain the primary noninvasive modality for **cardiac** motion study and that ultrasound will continue to provide important clinical information in all parts...

MEDICAL DESCRIPTORS:

*computer assisted tomography; *echocardiography; * **heart** ; * **heart movement** ; *tomography

SECTION HEADINGS:

- 014 Radiology
- 015 Chest Diseases, Thoracic Surgery and Tuberculosis
- 018 **Cardiovascular** Diseases and **Cardiovascular** Surgery
- 027 Biophysics, Bioengineering and Medical Instrumentation

16/3,K/21 (Item 1 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

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12868847 PMID: 9417209

Doppler tissue imaging : myocardial wall motion velocities in normal subjects.

Palka P; Lange A; Fleming A D; Sutherland G R; Fenn L N; McDicken W N

Department of Cardiology, Western General Hospital, Edinburg.

Journal of the American Society of Echocardiography - official publication of the American Society of Echocardiography (UNITED STATES)
Sep-Oct 1995, 8 (5 Pt 1) p659-68, ISSN 0894-7317 Journal Code: 8801388

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Doppler tissue imaging : myocardial wall motion velocities in normal subjects.

With a **scanner** modified for Doppler tissue **imaging**, mean myocardial velocities (MMV) across the myocardium were measured. The aim of this study was to determine the normal range of the maximum MMV in six standardized phases of the **cardiac cycle**. The MMV was defined as the average value of the myocardial velocity measured along each M-mode **scan** line throughout the thickness of the myocardium. The maximum MMV was defined as the maximum value of the MMV during the particular **cardiac** phase. Simultaneous gray-scale and Doppler tissue **imaging** M-mode **images** were taken of the interventricular septum and the left ventricular posterior wall from the parasternal...

... views in 15 normal volunteers (aged 21 to 47 years; mean 32 +/- 6 years). Each **cardiac cycle** was divided into six phases: atrial contraction, isovolumetric contraction, ventricular ejection, isovolumetric relaxation, rapid ventricular...

... each volunteer, the mean and standard deviation of the maximum MMV were measured for each **cardiac phase** averaged from 12 **cardiac cycles** from both long-axis and short-axis views. Finally, the mean and standard deviation were taken for each **cardiac phase** from 180 **cardiac cycles** from 15 volunteers. We have found that specific **cardiac phases** show significant differences in the maximum MMV between the adjoining **cardiac phases** and significant differences also occur between the maximum MMV measured in the interventricular septum and the left ventricular posterior wall during the same **cardiac phases**. These normal values provide a standard against which future Doppler tissue **imaging** M-mode studies of abnormal left ventricular function might be compared.

; Adult; Atrial Function; **Cardiac** Volume; **Heart** --physiology--PH; **Heart** Septum--physiology--PH; **Heart** Septum--ultrasonography--US; **Heart** Ventricles--physiology--PH; **Heart** Ventricles--ultrasonography--US; Middle Aged; Respiration; **Signal** Processing, Computer-Assisted; Stroke Volume; Ventricular Function; Ventricular Function, Left

16/3,K/22 (Item 2 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2004 The Dialog Corp. All rts. reserv.

12753886 PMID: 7674896

Multislice first-pass myocardial perfusion imaging on a conventional clinical scanner .

Walsh E G; Doyle M; Lawson M A; Blackwell G G; Pohost G M

Department of Medicine, University of Alabama, Birmingham School of Medicine, USA.

Magnetic resonance in medicine - official journal of the Society of Magnetic Resonance in Medicine / Society of Magnetic Resonance in Medicine (UNITED STATES) Jul 1995, 34 (1) p39-47, ISSN 0740-3194

Journal Code: 8505245

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Multislice first-pass myocardial perfusion imaging on a conventional clinical scanner .

... technique is demonstrated for the acquisition and processing of multislice, first-pass contrast-enhanced perfusion **images** in the myocardium. The acquisition is a modification of "keyhole" **imaging** in which time series images are acquired by sampling a limited segment of k-space, corresponding to the low spatial...

... modification demonstrated here, keyhole samples are divided into two groups that are sampled on alternate **cardiac cycles** . The alternate "missing" k-space portions are synthesized by Fourier interpolation. Visualization of contrast agent accumulation by **image** subtraction is demonstrated. A motion artifact reduction process using time domain Fourier filtering is used...

... 0.05-0.1 mmol/kg) injected into the right antecubital vein in conjunction with radionuclide **imaging** . Fully concordant studies were noted in 27 of these patients. Remaining studies were either partially...

Descriptors: Contrast Media; *Coronary Disease--diagnosis--DI;
*Heterocyclic Compounds--diagnostic use--DU; *Magnetic Resonance **Imaging**
--methods--MT; *Myocardium--pathology--PA; *Organometallic Compounds
--diagnostic use--DU; Artifacts; Coronary Disease--radionuclide **imaging**
--RI; Dipyridamole--diagnostic use--DU; Exercise Test; Fourier Analysis;
Heart --radionuclide **imaging** --RI; **Image** Processing, Computer-Assisted;
Signal Processing, Computer-Assisted; Technetium Tc 99m Sestamibi
--diagnostic use--DU; Thallium Radioisotopes--diagnostic use--DU

16/3,K/23 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2004 The Dialog Corp. All rts. reserv.

10476434 PMID: 10576265

Implementation of spectral width Doppler in pulsatile flow measurements.
Lee B R; Chiang H K; Chou Y H; Kuo C D; Wang J H; Lee S K
Institute of Biomedical Engineering, National Yang-Ming University,
Taipei, Taiwan.
Ultrasound in medicine & biology (ENGLAND) Oct 1999, 25 (8) p1221-7,
ISSN 0301-5629 Journal Code: 0410553
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed

...measurements, the axis of the blood vessel needs to be set manually on
the B- **scan image** to enable the estimation of the beam-vector angle and
the beam-vector angle corrected...

... normalization algorithm to enable the Doppler spectrum averaging using
the spectra obtained within a single **cardiac cycle**. The Doppler
spectrum averaging process reduces the noise level in the Doppler spectrum
and also...

; Blood Flow Velocity; Carotid Arteries--ultrasonography--US; Phantoms,
Imaging; **Signal** Processing, Computer-Assisted

16/3,K/24 (Item 4 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2004 The Dialog Corp. All rts. reserv.

10301708 PMID: 7998375

**A comparison of methods used to calculate ultrasonic myocardial
backscatter in the time domain.**

Moran C M; Sutherland G R; Anderson T; Riemersma R A; McDicken W N
Department of Medical Physics and Medical Engineering, University of
Edinburgh, Scotland, UK.
Ultrasound in medicine & biology (ENGLAND) 1994, 20 (6) p543-50,
ISSN 0301-5629 Journal Code: 0410553
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed

... of ultrasonic integrated backscatter from the left ventricular
posterior wall and interventricular septum of the **heart** is now well
documented in the literature, with minimal values occurring at end-systole
and...

... at end-diastole. However, little work has been performed to date to determine whether cyclic **cardiac** variation of other, more easily derived, backscatter parameters exists. In this study, 20 baseline, epicardial, long-axis **cardiac - cycle** sequences were obtained from eight open-chest pigs, yielding a total of 285 ultrasonic frames...

... workstation. In addition, the video data from these studies was digitised and collected from each **scan**. Five backscatter parameters, calculated in the time-domain, including (1) the average integrated backscatter; (2...

... square of the average grey-scale video data, were analysed and their variation throughout the **cardiac cycle** correlated against that obtained from integrated backscatter measurements. The backscatter values obtained were referenced to...

Descriptors: Echocardiography--methods--MT; * **Image** Processing, Computer-Assisted; * **Signal** Processing, Computer-Assisted

16/3,K/25 (Item 5 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

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08541076 PMID: 2636635

Clinical evaluation of regurgitant blood flow by rapid cine magnetic resonance imaging in patients with valvular heart disease]

Onishi S; Fukui S; Atsumi C; Morita R; Fujii K; Kusuoka H; Kitabatake A; Kamada T; Takizawa O

Division of Cardiology, Oriono-Izumi Hospital, Osaka.

Journal of cardiology (JAPAN) Jun 1989, 19 (2) p571-82, ISSN 0914-5087 Journal Code: 8804703

Document type: Journal Article ; English Abstract

Languages: JAPANESE

Main Citation Owner: NLM

Record type: Completed

Clinical evaluation of regurgitant blood flow by rapid cine magnetic resonance imaging in patients with valvular heart disease]

The clinical usefulness of magnetic resonance **imaging** (MRI) for evaluating regurgitant blood flow in patients with valvular **heart disease** was studied. The study subjects comprised three healthy volunteers and nine patients with valvular **heart disease** (aortic regurgitation 3, mitral regurgitation 2, tricuspid regurgitation 2, and pulmonary regurgitation 2). Five were men and seven were women, ranging in age from 31 to 85 years. Valvular **heart disease** was diagnosed by two-dimensional Doppler echocardiography. MRI was performed using a 1.5...

... 65-90 msec, TE = 10-38 msec) was used to generate 11 frames throughout one **cardiac cycle** in the transaxial, coronal and oblique planes. These sequential frames were displayed in cine mode on a CRT. 1. Intracavitary blood was **imaged** as a high **signal** intensity on gradient echo **images**, while surrounding **cardiac** structures had somewhat lower **signal** intensities. 2. In healthy volunteers, systolic ejection blood flow from the left ventricle was observed on coronal **images** in the cine mode display. The influx of atrial blood into the left and right ventricles was also clearly observed on transaxial cine **images**. 3. Aortic regurgitant flow was observed as areas of no **signal** intensity within the left ventricular cavity during diastole on coronal **images**. 4. Mitral and tricuspid regurgitations were observed within the left and right atria, respectively, as areas of no **signal** intensity on transaxial **images**. The

extent of regurgitant flow was determined in the vertical long-axis plane, equivalent to the right anterior oblique projection. 5. The vertical oblique **scan** was suitable for detecting pulmonary regurgitant flow. These results indicate that the rapid cine MRI...

...is a useful tool for noninvasively determining regurgitant blood flow in patients with various valvular **heart** diseases.

Descriptors: Aortic Valve Insufficiency--physiopathology--PP; *Magnetic Resonance **Imaging** --methods--MT; *Mitral Valve Insufficiency--physiopathology--PP; *Pulmonary Valve Insufficiency--physiopathology--PP; *Tricuspid Valve Insufficiency...
; Adult; Aged; Aged, 80 and over; Middle Aged; Motion **Pictures** ; Regional Blood Flow

16/3,K/26 (Item 6 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

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07371157 PMID: 3820043

The potential distribution generated by the fetal heart at the maternal abdomen.

Oostendorp T F; van Oosterom A; Jongsma H W; van Dongen P W

Journal of perinatal medicine (GERMANY, WEST) 1986, 14 (6) p435-44,
ISSN 0300-5577 Journal Code: 0361031

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

The potential distribution generated by the fetal heart at the maternal abdomen.

The pathways along which the electrical currents generated by the fetal **heart** are conducted to the surface of the maternal abdomen are not known. As a consequence...

... is hard to predict where electrodes should be placed in order to obtain an optimal **signal** . The amplitude of the FECG varies with gestation, and there is a large interindividual variability...

... maternal abdomen is studied in connection with the geometrical configuration of the electrical source (fetal **heart**) and the volume conductor (surrounding tissues). For a small group of pregnant women the abdominal...

... average fetal complexes are combined to plot the complete potential distribution generated by the fetal **heart** at the maternal abdomen (fetal body surface map, FBSM) at any given time instant during the fetal **cardiac cycle** . At these recording sessions the geometry is carefully quantified by making transverse **scans** every 2 cm with a compound echo **scanner** . The contours of fetal head and body, the placenta and the uterus are manually drawn on hardcopies of the video display **images** . Real time echoscopy is used to support the identification of the geometry. The contours are...

Descriptors: Abdomen--physiology--PH; *Computer Simulation;
*Electrocardiography--methods--MT; *Fetal **Heart** --physiology--PH; Abdomen--anatomy and histology--AH; Fetal **Heart** --anatomy and histology--AH; Ultrasonics

?

19/3,K/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2004 BIOSIS. All rts. reserv.

0012477058 BIOSIS NO.: 200000195371

Osteonecrosis of the knee after arthroscopic surgery for meniscal tears and chondral lesions

AUTHOR: Johnson Todd C ; Evans John A; Gilley James A; DeLee Jesse C
(Reprint)

AUTHOR ADDRESS: Department of Orthopaedics, University of Texas Health Sciences Center at San Antonio, 9150 Huebner Rd, Suite 250, San Antonio, TX, 78240, USA**USA

JOURNAL: Arthroscopy 16 (3): p254-261 April, 2000 2000

MEDIUM: print

ISSN: 0749-8063

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

AUTHOR: Johnson Todd C ...

...ABSTRACT: treatment. Type of Study: Case series. Methods and Materials: The charts, radiographs, and magnetic resonance **imaging** (MRI) **scans** of patients who developed osteonecrosis (ON) of the knee after routine arthroscopic surgery were reviewed...

DESCRIPTORS:

...METHODS & EQUIPMENT: magnetic resonance **imaging** --

19/3,K/2 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2004 BIOSIS. All rts. reserv.

0011887477 BIOSIS NO.: 199900147137

Sino-orbital aspergillosis in Acquired Immunodeficiency Syndrome

AUTHOR: Johnson Thomas E (Reprint); Casiano Roy R; Kronish Jan W; Tse David T; Meldrum Melissa; Chang Warren

AUTHOR ADDRESS: 900 NW 17th St., Miami, FL 33136, USA**USA

JOURNAL: Archives of Ophthalmology 117 (1): p57-64 Jan., 1999 1999

MEDIUM: print

ISSN: 0003-9950

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

AUTHOR: Johnson Thomas E ...

ABSTRACT: Objective: To describe the clinical features, causes, **imaging** characteristics, treatment, and outcome of patients with the acquired immunodeficiency syndrome (AIDS) and sino-orbital aspergillosis. Design: Records of 5 patients were reviewed. Results of **imaging** and histopathologic examinations and clinical courses of the patients were studied. Results: There were 3...

...mean CD4+ cell count was 0.014 X 10⁹/L (14 cells/mm³). Computed tomographic **scanning** exhibited heterogeneous, enhancing sino-orbital soft tissue lesions with bony erosion, and magnetic resonance **imaging** disclosed soft tissue masses hypointense on T1- and T2-weighted **images**. The infection involved 1 or more paranasal sinuses, with extension into the right orbit in...

DESCRIPTORS:

...METHODS & EQUIPMENT: magnetic resonance **imaging** --

19/3,K/3 (Item 3 from file: 5)
DIALOG(R)File 5: Biosis Previews(R)
(c) 2004 BIOSIS. All rts. reserv.

0005727907 BIOSIS NO.: 198784082056

NONFUNCTIONAL PHOTOMULTIPLIER TUBES CAN PRODUCE SUBTLE TOTAL-BODY SCAN DEFECTS

AUTHOR: BOUDREAU R J (Reprint); **JOHNSON T** ; DU CRET R P; LOKEN M
AUTHOR ADDRESS: BOX 382, UMHC, MINNEAPOLIS, MN 55455, USA**USA
JOURNAL: Clinical Nuclear Medicine 12 (7): p554-555 1987
ISSN: 0363-9762
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

NONFUNCTIONAL PHOTOMULTIPLIER TUBES CAN PRODUCE SUBTLE TOTAL-BODY SCAN DEFECTS

...AUTHOR: **JOHNSON T**

ABSTRACT: Nonfunctional photomultiplier tubes produce subtle total body **scan** defects. The resultant **scan** shows bands of reduced activity which are far less obvious than those seen on a standard **image** .

19/3,K/4 (Item 1 from file: 73)
DIALOG(R)File 73: EMBASE
(c) 2004 Elsevier Science B.V. All rts. reserv.

12189684 EMBASE No: 2003301448

Ganglioneuroblastoma metastatic to the orbit

Johnson T.E. ; Toledano S.R.

Dr. T.E. Johnson, Bascom Palmer Eye Institute, University of Miami, 900 NW 17th Street, Miami, FL 33136 United States
Ophthalmic Plastic and Reconstructive Surgery (OPTHALMIC PLAST.
RECONSTR. SURG.) (United States) 2003, 19/4 (330-333)
CODEN: OPRSE ISSN: 0740-9303
DOCUMENT TYPE: Journal ; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 19

Johnson T.E. ; Toledano S.R.

MEDICAL DESCRIPTORS:

clinical feature; cancer chemotherapy; cancer regression; follow up; prognosis; B **scan** ; computer assisted tomography; **image** analysis; human; female; case report; infant; article; priority journal

19/3,K/5 (Item 2 from file: 73)
DIALOG(R)File 73: EMBASE
(c) 2004 Elsevier Science B.V. All rts. reserv.

12014631 EMBASE No: 2003125548

Treatment of recurrent eosinophilic granuloma with systemic therapy

Song A.; **Johnson T.E.** ; Dubovy S.R.; Toledano S.

Dr. A. Song, Univ. of Iowa Hospitals and Clinics, PFP, 200 Hawkins Drive, Iowa City, IA 52242 United States

AUTHOR EMAIL: alice-song@uiowa.edu
Ophthalmic Plastic and Reconstructive Surgery (OPTHALMIC PLAST.
RECONSTR. SURG.) (United States) 2003, 19/2 (140-144)
CODEN: OPRSE ISSN: 0740-9303
DOCUMENT TYPE: Journal ; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 18

Song A.; Johnson T.E. ; Dubovy S.R.; Toledano S.

...Results: A 9-year-old boy had painful, right upper eyelid swelling. A computed tomography **scan** showed a right superolateral orbital mass with evidence of bony erosion. Frozen section evaluation was...

...disease. Recurrence of the orbital mass 6 weeks after surgery was confirmed by magnetic resonance **imaging** (MRI). Four weeks after treatment with prednisone and vinblastine, MRI showed a marked decrease in...

MEDICAL DESCRIPTORS:

...computer assisted tomography; frozen section; tumor biopsy; curettage; orbit disease; eye surgery; nuclear magnetic resonance **imaging** ; treatment outcome; human; male; case report; human tissue; school child; article; priority journal

19/3,K/6 (Item 3 from file: 73)

DIALOG(R)File 73:EMBASE

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11934890 EMBASE No: 2003045699

Echography as a useful adjunct in the diagnosis of orbital solitary fibrous tumor

Johnson T.E. ; Onofrey C.B.; Ehliies F.J.

Dr. T.E. Johnson, Bascom Palmer Eye Institute, 900 NW 17th Street, Miami, FL 33136 United States

AUTHOR EMAIL: tjohnson@med.miami.edu

Ophthalmic Plastic and Reconstructive Surgery (OPTHALMIC PLAST.

RECONSTR. SURG.) (United States) 2003, 19/1 (68-74)

CODEN: OPRSE ISSN: 0740-9303

DOCUMENT TYPE: Journal ; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 27

Johnson T.E. ; Onofrey C.B.; Ehliies F.J.

MEDICAL DESCRIPTORS:

eye tumor--diagnosis--di; eye tumor--surgery--su; tumor diagnosis; ultrasound; A **scan** ; B **scan** ; diagnostic **imaging** ; human; male; female; case report; human tissue; adolescent; adult; article; priority journal

19/3,K/7 (Item 4 from file: 73)

DIALOG(R)File 73:EMBASE

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07276187 EMBASE No: 1998171447

Prospective evaluation of 2-[sup 1sup 8F]-2-deoxy-D-glucose positron emission tomography in staging of regional lymph nodes in patients with cutaneous malignant melanoma

Macfarlane D.J.; Sondak V.; Johnson T. ; Wahl R.L.

Dr. R.L. Wahl, Division of Nuclear Medicine, B1G 412 UH, Univ. of Michigan Medical Center, Ann Arbor, MI 48109-0028 United States

Journal of Clinical Oncology (J. CLIN. ONCOL.) (United States) 1998,
16/5 (1770-1776)
CODEN: JCOND ISSN: 0732-183X
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 28

Macfarlane D.J.; Sondak V.; **Johnson T.** ; Wahl R.L.

...status - apart from whether a recent surgical scar was present - read attenuation- corrected reconstructed transverse **images** acquired between 50 and 60 minutes after injection. Intensity of FDG uptake was scored as...

...the 24 dissected node groups served as a reference. Results: Considering regional node basins, PET **imaging** demonstrated 11 true-positive (TP), 10 true-negative (TN), two false-negative (FN), and one...

...cases. The failure to detect micrometastatic disease may be due to the limitations of the **imaging** equipment and technique used here.
DEVICE BRAND NAME/MANUFACTURER NAME: Siemens-CTI model 921 ECAT **scanner** / siemens/United States; Siemens-CTI model 931 ECAT **scanner** /siemens/United States

MEDICAL DESCRIPTORS:

metastasis--diagnosis--di; diagnostic accuracy; lymph node metastasis
--diagnosis--di; histopathology; patient monitoring; diagnostic **imaging** ;
diagnostic value; human; male; female; clinical article; clinical trial;
controlled study; article; priority journal

19/3,K/8 (Item 5 from file: 73)

DIALOG(R)File 73:EMBASE

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00387426 EMBASE No: 1975159811

The foundation for politization of the police: its implications on the Watergate scandal

Johnson T.A.

Criminal Just. Progr., Coll. Soc. Prof., Univ. Kentucky, Lexington, Ky.
40506 United States

Journal of Forensic Sciences (J. FORENSIC SCI.) 1974, 19/4 (836-840)

CODEN: JFSCA

DOCUMENT TYPE: Journal

LANGUAGE: ENGLISH

The foundation for politization of the police: its implications on the Watergate scandal

Johnson T.A.

...criminal justice system except the law enforcement component is able to protect itself from the **scandalous** taint of the Watergate affair. The law enforcement component is severely handicapped by low visibility...

...political arena as a militant constituency. The most enduring and damaging consequence of the Watergate **scandal** has been its weakening of public confidence and support of the police in general, and...

...the democracy, by political leaders and police administrators, is obscured by the fact, real or **imagined** , that public power has been used for private purposes. A disquieting effect of the entire **scandal** has been

the obstructionist point of view which typifies the present administration, insofar as the...

...objective forensic experts. In fact, at every opportunity, efforts have been made to mediate the **scandal** at an in-house level. There are additional areas of concern within the forensic sciences...

...have been passed or will be upon us in the near future, relative to this **scandal**. For example, what role will forensic psychiatry, questioned documents, forensic engineering and forensic jurisprudence play...

...investigation and resolution of the imponderable litigation that will be the necessary conclusion to this **scandal**? The forensic scientist, as well as the behavioral scientist, has or should have an immensely important role to play in this **scandal**. Unfortunately, this reservoir of expertise has not been tapped. Perhaps someday policy makers within the...

...the Soledad brothers, Angela Davis, Attica, the Black Panther raid, Chicago 7 and the Watergate **scandal**. The remedy for these situations is not to denigrate the police, but to point out...

19/3,K/9 (Item 1 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

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14504053 PMID: 10504097

Abdominal organ segmentation using texture transforms and a Hopfield neural network.

Koss J E; Newman F D; **Johnson T K** ; Kirch D L

IEEE transactions on medical imaging (UNITED STATES) Jul 1999, 18 (7)

p640-8, ISSN 0278-0062 Journal Code: 8310780

Document type: Letter

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Koss J E; Newman F D; **Johnson T K** ; Kirch D L

... to cluster together the pixels within each organ or tissue type. We propose to form **images** based on second-order statistical texture transforms (Haralick transforms) of a CT or MRI **scan**. The original **scan** plus the suite of texture transforms are then input into a Hopfield neural network (HNN...

... best solution is the minima of a Lyapunov energy function. On a sample abdominal CT **scan**, this process successfully clustered 79-100% of the pixels of seven abdominal organs. It is...

19/3,K/10 (Item 2 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

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13575609 PMID: 9259966

Computed tomography in staging of patients with melanoma metastatic to the regional nodes.

Johnson T M ; Fader D J; Chang A E; Yahanda A; Smith J W; Hamlet K R; Sondak V K

Department of Dermatology, University of Michigan Medical Center, Ann Arbor 48109-0314, USA.

Annals of surgical oncology - the official journal of the Society of

Surgical Oncology (UNITED STATES) Jul-Aug 1997, 4 (5) p396-402, ISSN 1068-9265 Journal Code: 9420840
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed

Johnson T M ; Fader D J; Chang A E; Yahanda A; Smith J W; Hamlet K...

BACKGROUND: This study addresses the yield and clinical impact of computed tomography (CT) **imaging** in otherwise asymptomatic patients with stage III melanoma metastatic to the regional nodes. METHODS: The...

... and identified 127 asymptomatic patients with stage III melanoma (regional nodal disease) who received CT **scans** of the head, chest, abdomen, and/or pelvis. **Scans** were confirmed as true positive, false positive, and normal. RESULTS: Four hundred twenty-six head and body CT **scans** were performed at the time of presentation of stage III disease. Twenty patients had a true-positive CT **scan** revealing unsuspected metastases. Fifteen patients had abnormal CT **scans** subsequently shown to be a benign process or second malignancy. The incidence of true-positive CT **scans** was not different between the groups of patients who had clinically apparent versus occult nodal...

... There was a significantly higher incidence of abdominal and pelvic metastatic sites identified by CT **scan** in patients with inguinal nodal disease compared with axillary or head and neck node-positive patients. CONCLUSIONS: The yield of detection of unsuspected metastases by CT **scans** in asymptomatic patients with stage III melanoma was not insignificant. Because patients with resected stage...

19/3,K/11 (Item 3 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

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12481866 PMID: 12926229

Diffusion MRI: a new strategy for assessment of cancer therapeutic efficacy.

Chenevert Thomas L; Meyer Charles R; Moffat Bradford A; Rehemtulla Alnawaz; Mukherji Suresh K; Gebarski Stephen S; Quint Douglas J; Robertson Patricia L; Lawrence Theodore S; Junck Larry; Taylor Jeremy M; **Johnson Timothy D** ; Dong Qian; Muraszko Karin M; Brunberg James A; Ross Brian D

Department of Radiology, Center for Molecular Imaging, University of Michigan Medical School, 1500 East Medical Center Drive, Ann Arbor, MI 48109-0030, USA. tlchenev@umich.edu

Molecular imaging - official journal of the Society for Molecular Imaging (United States) Oct 2002, 1 (4) p336-43, ISSN 1535-3508

Journal Code: 101120118

Contract/Grant No.: 1P50CA93990; CA; NCI; 1P01CA85878; CA; NCI; 5R24CA83099; CA; NCI

Document type: Journal Article; Review; Review, Tutorial

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

...S; Quint Douglas J; Robertson Patricia L; Lawrence Theodore S; Junck Larry; Taylor Jeremy M; **Johnson Timothy D** ; Dong Qian; Muraszko Karin M; Brunberg James A; Ross Brian D

The use of anatomical **imaging** in clinical oncology practice traditionally relies on comparison of patient **scans** acquired before and

following completion of therapeutic intervention. Therapeutic success is typically determined from inspection of gross anatomical **images** to assess changes in tumor size. **Imaging** could provide significant additional insight into therapeutic impact if a specific parameter or combination of ...

... therapy. Moreover, response of a tumor to therapeutic intervention may be heterogeneous. The use of **imaging** could assist in delineating therapeutic-induced spatial heterogeneity within a tumor mass by providing information...

Descriptors: Magnetic Resonance **Imaging** --methods--MT; *Neoplasms --diagnosis--DI

19/3,K/12 (Item 4 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2004 The Dialog Corp. All rts. reserv.

04308653 PMID: 1084893

Obstructive airway disease associated with heterozygous alpha-1-antitrypsin deficiency.

Johnson T F ; Reisman R E; Arbesman C E; Mattar A G; Murphey W H
Journal of allergy and clinical immunology (UNITED STATES) Jul 1976,
58 (1 PT 1) p69-75, ISSN 0091-6749 Journal Code: 1275002
Document type: Case Reports; Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed

Johnson T F ; Reisman R E; Arbesman C E; Mattar A G; Murphey W H
... of alpha-1 antitrypsin deficiency. Three symptomatic siblings (2, ZZ;
1, MZ) had abnormal pulmonary **scans** and abnormal routine pulmonary
function studies. Five asymptomatic heterozygotes, three of whom had never
smoked...

...distinctly abnormal closing volumes. Three of the five patients also had
abnormal perfusion dynamics when **scanning** was done in the upright
position. Pulmonary dysfunction occurs in asymptomatic heterozygotes but
requires the...

; Adult; Airway Obstruction--diagnosis--DI; Airway Obstruction--genetics
--GE; Lung--radiography--RA; Radionuclide **Imaging** ; Respiratory Function
Tests
?

File 344:Chinese Patents Abs Aug 1985-2004/Mar
(c) 2004 European Patent Office
File 347:JAPIO Nov 1976-2003/Dec(Updated 040402)
(c) 2004 JPO & JAPIO
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200421
(c) 2004 Thomson Derwent

| Set | Items | Description |
|-----|--------|--|
| S1 | 77998 | (CARDIAC? OR HEART?? OR AORTA OR HEARTBEAT? OR HEART()BEAT? OR CARDIOVASCULAR?) |
| S2 | 152991 | (IMAG? OR PICTURE? OR PHOTOS OR PHOTOGRAPH?) AND SCAN? |
| S3 | 79 | CARDIAC(3N)CYCLE?(3N)SIGNAL? |
| S4 | 5 | (GENERAT? OR CREAT? OR COMPOS? OR DERIV?) AND S3 AND (USING OR "WITH" OR "FROM") AND S2 |
| S5 | 364934 | IC=(G06T? OR A61B?) |
| S6 | 7 | S2 AND S3 |
| S7 | 7 | S4 OR S6 |
| S8 | 7 | IDPAT (sorted in duplicate/non-duplicate order) |
| S9 | 7 | IDPAT (primary/non-duplicate records only) |
| S10 | 65 | S1 AND S3 AND S5 |
| S11 | 8 | S10 AND SCAN? |
| S12 | 1 | S11 NOT S7 |
| S13 | 15 | (ELECTROCARDIOGRAM OR ECG) ()SIGNAL AND S2 |
| S14 | 15 | S13 NOT (S11 OR S7) |
| S15 | 12 | S14 AND S5 |
| S16 | 12 | IDPAT (sorted in duplicate/non-duplicate order) |
| S17 | 10 | IDPAT (primary/non-duplicate records only) |
| S18 | 2 | S17 AND AD=20000926:20040412/PR |
| S19 | 8 | S17 NOT S18 |

9/3,K/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

014595723 **Image available**
WPI Acc No: 2002-416427/200244
XRPX Acc No: N02-327695

**Multi-sector CT imaging of cyclically-moving heart by helical scanning
and gating projection data using representative cardiac cycle EKG
signal**

Patent Assignee: GE MEDICAL SYSTEMS GLOBAL TECHNOLOGY CO (GENE); PAN T
(PANT-I); SHEN Y (SHEN-I)

Inventor: PAN T; SHEN Y

Number of Countries: 023 Number of Patents: 004

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|----------------|------|----------|----------------|------|----------|----------|
| WO 200226135 | A1 | 20020404 | WO 2001US30583 | A | 20010928 | 200244 B |
| US 20020136350 | A1 | 20020926 | US 2000237097 | P | 20000929 | 200265 |
| | | | US 2001966306 | A | 20010928 | |
| US 6504894 | B2 | 20030107 | US 2000237097 | P | 20000929 | 200306 |
| | | | US 2001966306 | A | 20010928 | |
| EP 1324698 | A1 | 20030709 | EP 2001975598 | A | 20010928 | 200345 |
| | | | WO 2001US30583 | A | 20010928 | |

Priority Applications (No Type Date): US 2000237097 P 20000929; US
2001966306 A 20010928

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-----------|------|-----|----|----------|--------------|
|-----------|------|-----|----|----------|--------------|

| | | | | | |
|--------------|----|---|----|-------------|--|
| WO 200226135 | A1 | E | 29 | A61B-006/03 | |
|--------------|----|---|----|-------------|--|

Designated States (National): IL JP

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU
MC NL PT SE TR

| | | | | |
|----------------|----|--|-------------|---------------------------------------|
| US 20020136350 | A1 | | G21K-001/12 | Provisional application US 2000237097 |
|----------------|----|--|-------------|---------------------------------------|

| | | | | |
|------------|----|--|-------------|---------------------------------------|
| US 6504894 | B2 | | A61B-006/03 | Provisional application US 2000237097 |
|------------|----|--|-------------|---------------------------------------|

| | | | | |
|------------|----|---|-------------|------------------------------|
| EP 1324698 | A1 | E | A61B-006/03 | Based on patent WO 200226135 |
|------------|----|---|-------------|------------------------------|

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI
LU MC NL PT SE TR

**Multi-sector CT imaging of cyclically-moving heart by helical scanning
and gating projection data using representative cardiac cycle EKG
signal**

Abstract (Basic):

... Method consists in helically **scanning** the patient heart at a
gantry rotation speed that leads or lags the heart cardiac cycle,
gating the projection data to **create** a geometric phase difference
between the cycle of the rotating gantry and the heart motion by
recording a representative **cardiac cycle EKG signal** and
reconstructing the heart **image**.

... There is an INDEPENDENT CLAIM for a heart CT **imaging** system...

...Method is for processing CT **images** and is particularly useful in
treating patients without arrhythmia...

...Method improves the temporal resolution of CT **images** by making the
phase difference or temporal resolution as short as 100ms to freeze the
...

...ideal gantry speeds w.r.t. different heart rates, plus gantry speed

selection for an **imaging** system having only two gantry speeds of 0.8 and 1.0s...
...Title Terms: **IMAGE** ;

9/3,K/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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010343292 **Image available**
WPI Acc No: 1995-245378/199532
XRPX Acc No: N95-190537

Multi-phase fat suppressed MRI cardiac imaging - executing gp of fast NMR pulse sequences during each cardiac cycle with selective RF inversion pulse that suppresses NMR signal produced by fat

Patent Assignee: GENERAL ELECTRIC CO (GENE)
Inventor: FOO T K

Number of Countries: 003 Number of Patents: 003

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-------------|------|----------|-------------|------|----------|----------|
| US 5429134 | A | 19950704 | US 94266295 | A | 19940627 | 199532 B |
| DE 19522487 | A1 | 19960104 | DE 1022487 | A | 19950621 | 199606 |
| JP 8164121 | A | 19960625 | JP 95155040 | A | 19950622 | 199635 |

Priority Applications (No Type Date): US 94266295 A 19940627

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-------------|------|-----|----|--------------|--------------|
| US 5429134 | A | | 9 | A61B-005/055 | |
| DE 19522487 | A1 | | 11 | G01R-033/567 | |
| JP 8164121 | A | | 9 | A61B-005/055 | |

Multi-phase fat suppressed MRI cardiac imaging -

...Abstract (Basic): A The method involves producing a cardiac **signal** which indicates **cardiac** phase of the patient during each **cardiac cycle** , then applying to the patient in timed relation with the cardiac signal a first, frequency...

...first group of NMR pulse sequences and acquiring NMR data for a first cardiac phase **image** during an interval following the first frequency selective, RF inversion pulse in which NMR signals...

...USE/ADVANTAGE - For producing temporal phase **images** in fast cardiac MRI acquisition capable to be acquired in single breath hold. Reduced **scanning** time and more cardiac **images** .

...Title Terms: **IMAGE** ;

9/3,K/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

010149542 **Image available**
WPI Acc No: 1995-050794/199507
Related WPI Acc No: 1995-268454
XRPX Acc No: N95-039924

MRI cardiac imaging method using temporal data sharing - using fast NMR pulse sequences to acquire data sets and reconstruct set of images depicting heart at successive phases during cardiac cycle

Patent Assignee: GENERAL ELECTRIC CO (GENE)

Inventor: BERNSTEIN T; FOO T K

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 5377680 | A | 19950103 | US 93102166 | A | 19930804 | 199507 B |

Priority Applications (No Type Date): US 93102166 A 19930804

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|------------|------|--------|----------------|--------------|
| US 5377680 | A | | 6 A61B-005/055 | |

MRI cardiac imaging method using temporal data sharing...

...using fast NMR pulse sequences to acquire data sets and reconstruct set of images depicting heart at successive phases during cardiac cycle

...Abstract (Basic): The method for increasing the number of temporal cardiac phase **images** of a patient's heart from NMR data acquired synchronously during a succession of **cardiac cycles**, involves producing a **cardiac signal** which indicates phase of the patient's heart during each cardiac cycle, acquiring first NMR...

...A first **image** is reconstructed from the first data set depicting the patient's heart at the first cardiac phase, and a second **image** is reconstructed from the second data set depicting the patient's heart at the second...

...from the first and second data sets to form an intermediate data set. An intermediate **image** is reconstructed from the intermediate data set which depicts the patient's heart at a...

...USE/ADVANTAGE - Production of temporal phase **images** in fast, single breath-hold cardiac MRI acquisition. Enables acquisition of double number of cardiac phase **images** during **scan** with given pulse sequence and within single breath-hold...

...Title Terms: **IMAGE** ;

9/3,K/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009676917 **Image available**

WPI Acc No: 1993-370470/199347

Related WPI Acc No: 1993-160893; 1994-169750; 1994-310830; 1997-022815

XRPX Acc No: N93-286034

Magnetic resonance cine flow imaging appts. e.g. for cardiac, angiography, and circulatory examination - dividing positive and negative portions of K-space into n segments, generating groups of echo sequences in each cardiac cycle, and dividing into groups of n contiguous echoes.

Patent Assignee: PICKER INT INC (PXR M)

Inventor: NESSAIVER M S; MURDOCH J B

Number of Countries: 004 Number of Patents: 005

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| EP 571071 | A1 | 19931124 | EP 93302041 | A | 19930317 | 199347 B |
| US 5329925 | A | 19940719 | US 91791855 | A | 19911114 | 199428 |
| | | | US 92859153 | A | 19920327 | |
| | | | US 92874807 | A | 19920428 | |
| US 5447155 | A | 19950905 | US 91791855 | A | 19911114 | 199541 N |

| | | | | | | |
|-------------|----|----------|-------------|---|----------|--------|
| | | | US 92859153 | A | 19920327 | |
| EP 571071 | B1 | 19990915 | EP 93302041 | A | 19930317 | 199942 |
| DE 69326379 | E | 19991021 | DE 626379 | A | 19930317 | 199950 |
| | | | EP 93302041 | A | 19930317 | |

Priority Applications (No Type Date): US 92874807 A 19920428; US 91791855 A 19911114; US 92859153 A 19920327

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|--|------|-----|----|--------------|--|
| EP 571071 | A1 | E | 19 | G01R-033/56 | |
| Designated States (Regional): DE FR NL | | | | | |
| US 5329925 | A | | 18 | A61B-005/055 | CIP of application US 91791855 CIP of application US 92859153 CIP of patent US 5273040 |
| US 5447155 | A | | 11 | A61B-005/055 | CIP of application US 91791855 CIP of patent US 5273040 |
| EP 571071 | B1 | E | | G01R-033/56 | |
| Designated States (Regional): DE FR NL | | | | | |
| DE 69326379 | E | | | G01R-033/56 | Based on patent EP 571071 |

Magnetic resonance cine flow imaging appts. e.g. for cardiac, angiography, and circulatory examination...

...dividing positive and negative portions of K-space into n segments, generating groups of echo sequences in each cardiac cycle, and dividing into groups of n contiguous...

...Abstract (Basic): The **imaging** method uses positive and negative portions of K-space which is segmented into corresponding n segments. The first segment of both positive and negative K-space contains views **with** the highest order frequency components, subsequent segments containing views **with** progressively lower order frequency components. The...

...17th segment contains views **with** the central-most, lowest order frequency components...

...The method comprises monitoring cardiac cycles of a subject in a magnetic resonance **imaging** region and **generating** a series of groups of consecutive echo sequences and receiving a corresponding number of echo...

...corresponds to a different time interval of the subjects cardiac cycle, and reconstructing a frame **image** representation **from** the echo signals of each group...

...USE/ADVANTAGE - E.g for cine **imaging** black blood. Can be implemented on standard MR **scanner** **with** no special hardware. Has higher spatial resolution and signal-to-noise ratio than echo planar **images** .

...Abstract (Equivalent): The cardiac cine magnetic resonance method comprises selecting a slice through a subject to be **imaged** , applying a bi-modal, pre-saturation RF pulse **with** a flip angle less than 70deg. concurrently **with** a pre-saturation slice select gradient to drive tissue in a pair of regions on either side of, parallel **with** , and displaced **from** the selected slice toward saturation and then after applying the bi-modal, pre-saturation RF...

...The method then involves following the spoiling gradient pulse, applying an **imaging** sequence portion including applying an **imaging** RF pulse

to **generate** magnetic resonance signals and then repeating second to fourth steps a multiplicity of times in...

...in the pair of regions toward steady-state saturation. It then involves repeating step five **with** each of a number of phase encodings. It then involves reconstructing a number of **image** representations **from** temporally corresponding magnetic resonance signals **generated** in fourth to sixth steps...

...A cine magnetic resonance **imaging** method involves monitoring cardiac cycles of a subject in a magnetic resonance **imaging** region. In coordination **with** each monitored cardiac cycle, a series of groups of consecutive echo sequences are **generated** and a corresponding number of echo signals are received. Each echo signal corresponds to one...

...is segmented into a corresponding n segments. All of the views of each group are **from** one of the positive k-space portion and the negative k-space portion...

...The above step is repeated **with** each of the groups at substantially the same time in each of a number of the monitored **cardiac cycles**. The echo **signals** are sorted by group such that each group corresponds to a different time interval of each of the subject's cardiac cycles. A frame **image** representation is reconstructed **from** the echo signals of each group...

...ADVANTAGE - Provides quantitative flow **imaging** technique which uses symmetric centrally-ordered phase encode groupings, as well as other segmentations of...

...Title Terms: **IMAGE** ;

9/3,K/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

008755480 **Image available**
WPI Acc No: 1991-259497/199135
XRPX Acc No: N91-197861

Cardiac-respiratory monitor with magnetic noise elimination - compares received wave forms from electrodes with properties of cardiac signals to determine that noise wave form is being detected

Patent Assignee: PICKER INT INC (PXR M)
Inventor: BLAKELEY D M; GANGAROSA R E
Number of Countries: 001 Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 5038785 | A | 19910813 | US 90546253 | A | 19900629 | 199135 B |

Priority Applications (No Type Date): US 90546253 A 19900629; US 85764490 A 19850809; US 8798546 A 19870918

Cardiac-respiratory monitor with magnetic noise elimination...

...compares received wave forms from electrodes with properties of cardiac signals to determine that noise wave form is being detected
...Abstract (Basic): The magnetic resonance **imaging** appts. (A) **generates** a uniform magnetic field, causes gradient fields transversely there across, excites resonance in nuclei within the **image** region, receives radio frequency signals **from** resonating nuclei, and reconstructs

images representative thereof. Electrodes (30) monitor the cardiac cycle of a patient (B) being **images** and an expansion belt (32) monitors the respiratory cycle. During a magnetic resonance **imaging scan**, noise signal wave forms or spikes are superimposed on the **cardiac cycle signal**. A noise spike detector detects noise spikes ...

...Specifically, a comparator (48) compares each wave form received **from** the electrodes **with** properties of a cardiac signal, such as the slope. When the comparator determines that a...

9/3,K/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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007751513

WPI Acc No: 1989-016625/198903

XRPX Acc No: N89-012847

Ultrasonic tomographic imaging instrument for cardiac diagnostics - has control unit that subdivides cardiac cycle into sub-periods and scans sub-zones within zones of special interest

Patent Assignee: TOSHIBA KK (TOKE)

Inventor: TOCHIGI J P; YOSHIOKA Y

Number of Countries: 002 Number of Patents: 003

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| DE 3821103 | A | 19890105 | DE 3821103 | A | 19880622 | 198903 B |
| US 4846188 | A | 19890711 | US 88208080 | A | 19880617 | 198935 |
| DE 3821103 | C | 19910207 | | | | 199106 |

Priority Applications (No Type Date): JP 87154881 A 19870622

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|------------|------|-----|----|----------|--------------|
| DE 3821103 | A | | 16 | | |
| US 4846188 | A | | 11 | | |

Ultrasonic tomographic imaging instrument for cardiac diagnostics...

...has control unit that subdivides cardiac cycle into sub-periods and scans sub-zones within zones of special interest

...Abstract (Basic): Each cardiac cycle is divided into sub-periods. Sub-zones are repeatedly **scanned** within a zone of special interest during sub-periods. The resulting **image** data are stored sequentially in frame memories and complete frames are displayed...

...The system comprises an ultrasound transducer that **scans** a defined zone **with** an ultrasound beam and receives the echo. This is followed by a transmitter/receiver which provides the driver signals and processes echo signals. A signal **generator** produces bursts of signals, each of which corresponds to one period. These are applied to a control unit that causes the transmitter/receiver to **scan** repeatedly several sub-zones during corresponding sub-periods. This unit also controls a bulk store that holds sub-frame **image** signals and which produces frame **image** signals within **cardiac cycles**.

...USE/ADVANTAGE - Minimises distortion caused by time difference between lines which form displayed **image**.

...Abstract (Equivalent): The ultrasonic **imaging** device, for providing a 2-dimensional **image** of the blood flow, has an ultrasonic transducer (11) directing the ultrasonic waves onto a...

...ADVANTAGE - Provides clear **image** of blood flow. (11pp)

...Abstract (Equivalent): The ultrasonic **imaging** appts. comprises an ultrasonic transducer for repeatedly **scanning** the same sub-region over sub-periods of one of a number of heartbeat periods defined by signals supplied **from** an electrocardiograph. A memory is provided having a number of frame-storage areas each for sequentially storing **image** signals obtained during corresponding sub-periods of different heartbeat periods...

...When **image** signals for the entire **scan** region, obtained over the heartbeat periods, are stored in each frame storage area, a one-frame **image** signal is read out and displayed on a television monitor...

...ADVANTAGE - Minimises distortion of **image** due to time different between steering lines forming **image** displayed on screen on diagnosis. (11pp)S

...Title Terms: **IMAGE** ;

9/3,K/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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007050145

WPI Acc No: 1987-050142/198707

XRPX Acc No: N87-038107

Anatomical condition response gating for NMR imaging system - has gate sync. of quadrature imaging field responding to signals of body respiration cycle and electrocardiogram

Patent Assignee: PICKER INT INC (PXR M)

Inventor: BLAKELEY D; GANGAROSA R E M; KERSHAW C A

Number of Countries: 005 Number of Patents: 006

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-------------|------|----------|-------------|------|----------|----------|
| WO 8700922 | A | 19870212 | WO 86GB451 | A | 19860730 | 198707 B |
| EP 232309 | A | 19870819 | EP 86904331 | A | 19860730 | 198733 |
| US 4694837 | A | 19870922 | US 85764440 | A | 19850809 | 198740 |
| JP 63501338 | W | 19880526 | JP 86504146 | A | 19860730 | 198827 |
| EP 232309 | B | 19900523 | | | | 199021 |
| DE 3671527 | G | 19900628 | | | | 199027 |

Priority Applications (No Type Date): US 85764440 A 19850809

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|------------|------|--------|----------|--------------|
| WO 8700922 | A | E 29 | | |

Designated States (National): JP

Designated States (Regional): DE GB NL

| | | |
|-----------|---|---|
| EP 232309 | A | E |
|-----------|---|---|

Designated States (Regional): DE GB NL

| | | |
|------------|---|----|
| US 4694837 | A | 10 |
|------------|---|----|

| | |
|-----------|---|
| EP 232309 | B |
|-----------|---|

Designated States (Regional): DE GB NL

Anatomical condition response gating for NMR imaging system...

...has gate sync. of quadrature imaging field responding to signals of

body respiration cycle and electrocardiogram

- ...Abstract (Basic): energising gradient field coils, quadrature coils which excite magnetic resonance of selected nuclei in the **image** region and receive radio frequency resonance signals. The patient monitoring system includes two anatomical condition...
- ...ADVANTAGE - Permits synchronisation of patient **imaging** in relation specific body functions or motions.
- ...Abstract (Equivalent): An anatomical condition gating apparatus for magnetic resonance **imagers** comprising: a first anatomical condition detector (30) for monitoring a first anatomical condition of a patient (B) to be **imaged** ; a second anatomical condition detector (32) for monitoring a second anatomical condition of the patient (B) to be **imaged** ; a light source (69) for producing a light signal which is encoded in accordance **with** both the first and second anatomical condition detectors (30, 32), the light source (69) being operatively connected **with** the first and second anatomical condition detectors (30, 32); a light signal receiver (70) for receiving the encoded light signal characterised by: a **scan** triggering means (74, 76, 78, 80, 82) for initiating **imaging scans** in accordance **with** the first anatomical condition encoding of the received light signal, the **scan** triggering means (74, 76, 78, 80, 82) being operatively connected **with** the light signal receiver (70); and a **scan** blocking means (104, 106, 108, 110, 112, 114, 116) for preventing processing of **imaging** data in accordance **with** the second anatomical condition encoding of the received light signal, the **scan** blocking means (104, 106, 108, 110, 112, 114, 116) being operatively connected **with** the light signal receiver (70). (15pp)
- ...Abstract (Equivalent): Resonance is excited in nuclei within an **image** region before receiving radio frequency signals **from** the nuclei, and reconstructing representative **images** . Electrodes (30) monitor the cardiac cycle of a patient (B) being **imaged** and an expansible belt (32) monitors the respiratory cycle. A carrier signal **from** a **generator** (52) is modulated **with** the respiratory signals. The modulated carrier signals are combined (60) **with** the cardiac signals and converted to a light signal by a light source (62). A...
- ...separate the received cardiac and respiratory encoded carrier signals. A zero detector (80) provides a **scan** initiation signal in response to a preselected portion of the **cardiac cycle** . The respiratory encoded carrier **signal** is demodulated (102) and a comparator (116) blocks or enables the processing of **image** data during a selected window of the respiratory cycle. A window adjustment circuit (118) adjusts...
- ...Title Terms: **IMAGE** ;
- ?

12/3,K/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

011525698 **Image available**
WPI Acc No: 1997-502184/199746
Related WPI Acc No: 1995-154999
XRPX Acc No: N97-418665

Lead extraction device for pacemaker lead - with central lumen that
pacemaker lead will fit within to guide catheter and optical fibre to
separate lead from fibrous scar tissue

Patent Assignee: WAHLSTROM D A (WAHL-I); WILLIAMS T M (WILL-I)

Inventor: WAHLSTROM D A; WILLIAMS T M

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 5674217 | A | 19971007 | US 93131055 | A | 19931001 | 199746 B |
| | | | US 93153715 | A | 19931116 | |

Priority Applications (No Type Date): US 93153715 A 19931116; US 93131055 A
19931001

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|------------|------|-----|-------------|----------|--|
| US 5674217 | A | 20 | A61B-017/32 | | CIP of application US 93131055 CIP of patent US 5423806 |

...Abstract (Basic): lead. The catheter is guided along the lead permitting
laser light energy to ablate fibrous **scan** tissue affixing the lead in
the venous system and **heart**. The catheter distal end (25) has a guard
assembly (68). Each optical fibre distal end...

...The laser is synchronised with the **cardiac** cycle. The trigger pulse
for the laser is generated in response to the sensed **cardiac cycle**.
An electrocardiogram unit senses the cardia **cycles** and communicates
sensed **signals** to a trigger generator to provide a trigger pulse to a
laser firing circuit...

...USE/ADVANTAGE - For lead tip attached by fibrous **scan** tissue to **heart**
wall, lead encased by 'channel scar', to extract stents...

International Patent Class (Main): A61B-017/32

?

19/3,K/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
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05409245 **Image available**
CONTROL METHOD FOR X-RAY CT DEVICE AND X-RAY CT DEVICE

PUB. NO.: 09-024045 [JP 9024045 A]
PUBLISHED: January 28, 1997 (19970128)
INVENTOR(s): YOSHITOME EIJI
APPLICANT(s): GE YOKOGAWA MEDICAL SYST LTD [485515] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 07-173065 [JP 95173065]
FILED: July 10, 1995 (19950710)

INTL CLASS: A61B-006/03 ; A61B-006/03

ABSTRACT

...SOLVED: To collect data only between the prescribed phases of the periodical movement of a **scanning** object by measuring data under the revolution of an X-ray tube with a revolution...

...device 3 detects a period (h) and a phase from the R-wave of an **electrocardiogram** signal and retrieves a table stored in a memory device for taking out a delay time...

... is collected with an X-ray CT device 100. Then, when an operator enters a **scanning** command from an input device 2, an X-ray tube 11 giving one revolution in...

...ray on timing elapsed by the delay time (d) from the R-wave of the **electrocardiogram** signal, thereby measuring data over the measurement time (e). Thereafter, an **image** reconstituting operation is made on the basis of collected data to form a tomography.

19/3,K/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2004 JPO & JAPIO. All rts. reserv.

03242847 **Image available**
MAGNETIC RESONANCE **IMAGE** **PHOTOGRAPHING** DEVICE

PUB. NO.: 02-218347 [JP 2218347 A]
PUBLISHED: August 31, 1990 (19900831)
INVENTOR(s): HOSHINO KAZUYA
OTA MASAHIRO
HARA MAKOTO
APPLICANT(s): YOKOGAWA MEDICAL SYST LTD [485515] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 01-039626 [JP 8939626]
FILED: February 20, 1989 (19890220)
JOURNAL: Section: C, Section No. 779, Vol. 14, No. 526, Pg. 7,
November 19, 1990 (19901119)

MAGNETIC RESONANCE **IMAGE** **PHOTOGRAPHING** DEVICE

INTL CLASS: A61B-005/055 ; G01R-033/48

ABSTRACT

...To obtain the data at a desired phase and obviate the need of the long

scan time by providing an **electrocardiogram signal** detecting means, trigger generating means based on the **electrocardiogram signal**, delayed time determining means based on the trigger signal, and a switching means for the...

...CONSTITUTION: An operator sets **scan** parameters and also sets a delayed time Td from an operating console 32. A sequence...

... circuit 26 generates trigger signals on the basis of the R-wave 10 of the **electrocardiogram signal** sent through a calculator 27 from an electrocardiogram detecting circuit 34, and controls a gradient magnetic field driving circuit 23 so as to start **scanning** according to the set **scan** parameter. At this time, the phase encode quantity is switched after the set delayed time...

... beat phase is obtained can be carried out effectively at the same time to the **scan** time.

19/3,K/3 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2004 JPO & JAPIO. All rts. reserv.

03134045 **Image available**
HEART **IMAGE** PICKUP DEVICE BY **ECG SIGNAL** OF MRI

PUB. NO.: 02-109545 [JP 2109545 A]
PUBLISHED: April 23, 1990 (19900423)
INVENTOR(s): BESSHO KOJI
APPLICANT(s): YOKOGAWA MEDICAL SYST LTD [485515] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 63-261849 [JP 88261849]
FILED: October 18, 1988 (19881018)
JOURNAL: Section: C, Section No. 737, Vol. 14, No. 314, Pg. 138, July 05, 1990 (19900705)

HEART **IMAGE** PICKUP DEVICE BY **ECG SIGNAL** OF MRI

INTL CLASS: **A61B-005/055** ; G01R-033/48

ABSTRACT

PURPOSE: To **photograph** the movement of the hearth at all the time desired by a user by providing an arithmetic means which compares the **ECG signal** obtained after **scanning** and the signal stored in a memory means and decides timing and a system control means for synchronizing the **scan** of a MRI with the trigger pulse output from the arithmetic means...

...CONSTITUTION: A computer 24 is inputted with the **ECG signal** of a body to be inspected 21 inputted via an AD converter 23 by an electrocardiograph 22 and previously stores the characteristics of the **ECG signal** of the body 21 indicated by the crest value, differential value, etc. The computer 24 compares the **ECG signal** inputted thereto and the stored signal and decides the timing to output the trigger which...

...user previously marked by an operator console 26. The computer outputs a pulse to a **scan** controller 27. The **scan** controller 27 makes **scanning** in synchronization with the trigger pulse outputted from the computer 24.

19/3,K/4 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

014268080 **Image available**

WPI Acc No: 2002-088778/200212

Related WPI Acc No: 1999-560884; 2000-637453; 2001-450796

XRPX Acc No: N02-065373

Medical diagnostic ultrasound system automatically varies interval between transmission of pulse by predetermined amount so that one of interval is greater than or equal to period of electrocardiograph signal

Patent Assignee: ACUSON CORP (ACUS-N)

Inventor: BENNETT R M; GARDNER E A; HOLLEY G L; MASLAK S H

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 6306095 | B1 | 20011023 | US 97838919 | A | 19970411 | 200212 B |
| | | | US 98159527 | A | 19980923 | |
| | | | US 99378236 | A | 19990819 | |

Priority Applications (No Type Date): US 97838919 A 19970411; US 98159527 A 19980923; US 99378236 A 19990819

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|------------|------|-----|-------------|----------|---|
| US 6306095 | B1 | 16 | A61B-008/00 | | Cont of application US 97838919 Cont of application US 98159527 Cont of patent US 6110120 |

Abstract (Basic):

... amount, so that one of the interval is greater than or equal to period of **ECG signal** in response to the trigger signals generated by a triggering device. A transmit beamformer (12...
... For ultrasonic **imaging** systems...

...for alternating between two types of frames. Triggered frames are adapted to obtain high quality **image** of tissues containing contrast media. Locator frames are adapted not to destroy the bubbles **imaged** by the triggered frame. The continuous feedback of location of **scanned** plane is provided to the user by displaying locator frames in real time on a...

International Patent Class (Main): **A61B-008/00**

19/3,K/5 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

013452478 **Image available**

WPI Acc No: 2000-624421/200060

XRPX Acc No: N00-463227

X-ray computerized tomography apparatus for medical diagnosis, sets linear motion velocity of image pick-up to satisfy specific condition

Patent Assignee: YOKOGAWA MEDICAL SYSTEMS LTD (YOKM)

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|---------------|------|----------|-------------|------|----------|----------|
| JP 2000254116 | A | 20000919 | JP 9964533 | A | 19990311 | 200060 B |

Priority Applications (No Type Date): JP 9964533 A 19990311

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-----------|------|-----|----|----------|--------------|
|-----------|------|-----|----|----------|--------------|

JP 2000254116 A 7 A61B-006/03

X-ray computerized tomography apparatus for medical diagnosis, sets linear motion velocity of image pick-up to satisfy specific condition

Abstract (Basic):

... A measurement unit detects the mean period (T) of **ECG signal**. The linear motion velocity (V) of **image pick-up** is set to satisfy a relation, $V = n(th) \text{ divide } T$, where n' is number of detector rows and th' is the one revolution time of **image pick-up**. 3D **images** corresponding to inspection portions are displayed based on **image pick-up** movement.

... For displaying 3D **image** of patients heart during medical diagnosis...

...High definitive 3D **images** are obtained even during high speed **scanning**, according to movement of **image pick-up**...

...Title Terms: **IMAGE** ;

International Patent Class (Main): **A61B-006/03**

19/3,K/6 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

013441121 **Image available**

WPI Acc No: 2000-613064/200059

XRPX Acc No: N00-454185

Verification of connection between imaging and ECG subsystems method uses multi conductor cable

Patent Assignee: GENERAL ELECTRIC CO (GENE)

Inventor: ACHARYA K; BLAKE J A; ACHARYA K C

Number of Countries: 027 Number of Patents: 003

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|---------------|------|----------|-------------|------|----------|----------|
| EP 1013224 | A1 | 20000628 | EP 99310080 | A | 19991215 | 200059 B |
| JP 2000210281 | A | 20000802 | JP 99349730 | A | 19991209 | 200059 |
| US 6195408 | B1 | 20010227 | US 98216473 | A | 19981218 | 200114 |

Priority Applications (No Type Date): US 98216473 A 19981218

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-----------|------|-----|----|----------|--------------|
|-----------|------|-----|----|----------|--------------|

| | | | | | |
|------------|----|---|----|-------------|--|
| EP 1013224 | A1 | E | 11 | A61B-006/00 | |
|------------|----|---|----|-------------|--|

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT

LI LT LU LV MC MK NL PT RO SE SI

| | | | | |
|---------------|---|----|-------------|--|
| JP 2000210281 | A | 31 | A61B-006/03 | |
|---------------|---|----|-------------|--|

| | | | |
|------------|----|-------------|--|
| US 6195408 | B1 | A61B-006/00 | |
|------------|----|-------------|--|

Verification of connection between imaging and ECG subsystems method uses multi conductor cable

Abstract (Basic):

... Method consists of interconnecting the **imaging** system and ECG subsystem using a multi-conductor cable and verifying signal transmission through it...

... There are INDEPENDENT CLAIMS for (1) a verification system and (2) an **imaging** system...

...Method concerns CT **imaging** system cable interconnection verification

...

...Method enables detection of **ECG signal** cable failures during and

after **scanning** of the patient...

...The figure shows a CT **imaging** system...

...Title Terms: **IMAGE** ;

International Patent Class (Main): **A61B-006/00** ...

... **A61B-006/03**

19/3,K/7 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012968506 **Image available**

WPI Acc No: 2000-140355/200013

XRPX Acc No: N00-105018

Magnetic resonance imaging apparatus for angiography

Patent Assignee: TOSHIBA KK (TOKE); MIYAZAKI M (MIYA-I)

Inventor: MIYAZAKI M

Number of Countries: 002 Number of Patents: 002

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|----------------|------|----------|-------------|------|----------|----------|
| JP 2000005144 | A | 20000111 | JP 99112548 | A | 19990420 | 200013 B |
| US 20030171671 | A1 | 20030911 | US 99294148 | A | 19990420 | 200367 |

Priority Applications (No Type Date): JP 98108909 A 19980420

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|----------------|------|--------|--------------|--------------|
| JP 2000005144 | A | 20 | A61B-005/055 | |
| US 20030171671 | A1 | | A61B-005/55 | |

Magnetic resonance imaging apparatus for angiography

Abstract (Basic):

... The tensor obtains the ECG signals showing the cardiac tense state. A **scanning** unit generates sequence of pulse to perform three-dimensional **scanning** by synchronizing every pulse with the ECG **signal** obtained from tensor. The pulse sequence includes RF excitation pulse which sets short pulse duration.

... An INDEPENDENT CLAIM is also included for magnetic resonance **imaging** method...

...Contrast medium is not administered for the patient is non-invasive thus high MRA **image** with ability to depict the pumping of heart and the blood flow direction in the vessel can be provided. **Image** pick-up time for data collection can be reduced as the time period of pulse is reduced by using RF excitation pulse. **Image** of artery and vein can be separated suitably. Signal to noise ratio of blood flow **image** is raised by using reagent which stimulates the blood vessel and hence the functioning of vessel can be **photographed** directly...

...The figure shows the functional block diagram of component of magnetic resonance **imaging** apparatus.

...Title Terms: **IMAGE** ;

International Patent Class (Main): **A61B-005/055** ...

... **A61B-005/55**

19/3,K/8 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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004449167

WPI Acc No: 1985-276045/198544

XRPX Acc No: N85-206004

Cardiac imaging with CT scanner - has cardiac cycle monitor and irregular cardiac cycle sensor, including discriminator, for preventing irregular data degrading tomographic i

Patent Assignee: TECHNICARE CORP (TCAR)

Inventor: COOL S L; HUNT W F; RICHEY J B; WAKE R H; WALTERS R G

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 4547892 | A | 19851015 | US 79106730 | A | 19791226 | 198544 B |

Priority Applications (No Type Date): US 79106730 A 19791226; US 77783717 A 19770401

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|------------|------|-----|----|----------|--------------|
| US 4547892 | A | | 9 | | |

Cardiac imaging with CT scanner -

...Abstract (Basic): The patient's **ECG signal** is employed in a traverse-and-rotate type CT **scanner** as a time base for triggering the beginning of a traverse such that the travelling...

...heart at a desired phase of the cardiac cycle. For a purely-rotational-type **scanner**, continuously generated **scan** data is only stored for corresponding phases of successive cardiac cycles...

...Alternatively, gating of the beams themselves can be controlled by the **ECG signal**. In a traverse-and-rotate-type fan-beam CT **scanner**, the effective beam width is narrowed to hasten the traverse of the heart...

...Title Terms: **IMAGE** ;

International Patent Class (Additional): **A61B-005/02** ...

... **A61B-006/00**

?

File 2:INSPEC 1969-2004/Apr W1
(c) 2004 Institution of Electrical Engineers
File 6:NTIS 1964-2004/Apr W1
(c) 2004 NTIS, Intl Cpyrght All Rights Res
File 8:Ei Compendex(R) 1970-2004/Mar W4
(c) 2004 Elsevier Eng. Info. Inc.
File 34:SciSearch(R) Cited Ref Sci 1990-2004/Apr W1
(c) 2004 Inst for Sci Info
File 35:Dissertation Abs Online 1861-2004/Mar
(c) 2004 ProQuest Info&Learning
File 65:Inside Conferences 1993-2004/Apr W1
(c) 2004 BLDSC all rts. reserv.
File 94:JICST-EPlus 1985-2004/Mar W4
(c)2004 Japan Science and Tech Corp(JST)
File 95:TEME-Technology & Management 1989-2004/Mar W3
(c) 2004 FIZ TECHNIK
File 99:Wilson Appl. Sci & Tech Abs 1983-2004/Mar
(c) 2004 The HW Wilson Co.
File 144:Pascal 1973-2004/Apr W1
(c) 2004 INIST/CNRS
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
(c) 1998 Inst for Sci Info
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
(c) 2002 The Gale Group
File 603:Newspaper Abstracts 1984-1988
(c)2001 ProQuest Info&Learning
File 483:Newspaper Abs Daily 1986-2004/Apr 10
(c) 2004 ProQuest Info&Learning
File 248:PIRA 1975-2004/Mar W4
(c) 2004 Pira International

| Set | Items | Description |
|-----|---------|--|
| S1 | 1828224 | (CARDIAC? OR HEART?? OR AORTA OR HEARTBEAT? OR HEART()BEAT? OR CARDIOVASCULAR?) |
| S2 | 280123 | (IMAG? OR PICTURE? OR PHOTOS OR PHOTOGRAPH?) AND SCAN? |
| S3 | 227 | CARDIAC(3N)CYCLE?(3N)SIGNAL? |
| S4 | 1 | (GENERAT? OR CREAT? OR COMPOS? OR DERIV?) AND S3 AND (USING OR "WITH" OR "FROM") AND S2 |
| S5 | 9440 | AU=(ARGIRO, V? OR BREJL, M? OR RASHID, R? OR JOHNSON, T? OR BREJL, M? OR ARGIRO V? OR BREJL M? OR RASHID R? OR JOHNSON T? OR BREJL M?) |
| S6 | 0 | S3 AND S5 |
| S7 | 59 | S2 AND S5 |
| S8 | 0 | S7 AND S3 |
| S9 | 7 | S2 AND S3 |
| S10 | 6 | S9 NOT S4 |
| S11 | 5 | RD S10 (unique items) |

4/3,K/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

7522917 INSPEC Abstract Number: A2003-05-8760B-053, B2003-03-7510H-061,
C2003-03-7330-338

Title: Grey-scale gating for freehand 3D ultrasound

Author(s): Treece, G.M.; Prager, R.W.; Gee, A.H.; Cash, C.J.C.; Berman,
L.

Author Affiliation: Dept. of Eng., Cambridge Univ., UK

Conference Title: 2002 IEEE International Symposium on Biomedical Imaging
(Cat. No.02EX608) p.993-6

Publisher: IEEE, Piscataway,NJ,USA

Publication Date: 2002 Country of Publication: USA xxxii+1062 pp.

ISBN: 0 7803 7584 X Material Identity Number: XX-2002-02761

U.S. Copyright Clearance Center Code: 0-7803-7584-X/02/\$17.00

Conference Title: 2002 IEEE International Symposium on Biomedical Imaging

Conference Sponsor: IEEE Signal Processing Soc

Conference Date: 7-10 July 2002 Conference Location: Washington, DC,
USA

Language: English

Subfile: A B C

Copyright 2003, IEE

Abstract: Freehand three-dimensional (3D) ultrasound is a flexible **imaging** technique which allows a 3D data set to be constructed of sequential B- **scans** from a conventional ultrasound **scanner** . Since the data is acquired over several seconds, physiological motion **generates** spatial artifacts in visualisations of the data. Consequently, an electrocardiogram (ECG) signal is often used to gate the acquisition of B- **scans** to a single point in the cardiac cycle. We present a technique which can remove temporal artifacts by **using** properties of the grey-scale B- **scan** data, obviating the need for an external gating **signal** . B- **scans** are acquired throughout the **cardiac cycle** , and any phase can be selected for subsequent visualisation. This enables limited real-time 4D...

...Descriptors: **image** sequences...

...medical **image** processing

...Identifiers: flexible **imaging** technique...

...sequential B- **scans** ; ...

...conventional ultrasound **scanner** ; ...

...B- **scan** acquisition...

...grey-scale B- **scan** data

?

11/3,K/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

6537276 INSPEC Abstract Number: A2000-08-8760B-021, B2000-04-7510H-055,
C2000-04-7330-472

Title: Computerized system for the assessment of left ventricular function based on ventricular dimensions and intracardiac pressure measurements

Author(s): Hnatkova, K.; Varma, C.; Waktare, J.E.P.; Brecker, S.J.; Malik, M.

Author Affiliation: St. George's Hospital Med. Sch., London, UK

Conference Title: Computers in Cardiology 1999. Vol.26 (Cat. No.99CH37004) p.387-9

Publisher: IEEE, Piscataway, NJ, USA

Publication Date: 1999 Country of Publication: USA xxiii+724 pp.

ISBN: 0 7803 5614 4 Material Identity Number: XX-1999-03638

U.S. Copyright Clearance Center Code: 0276-6547/99/\$10.00

Conference Title: Computers in Cardiology 1999. Vol. 26

Conference Date: 26-29 Sept. 1999 Conference Location: Hannover, Germany

Language: English

Subfile: A B C

Copyright 2000, IEE

...Abstract: LV posterior wall and septal endocardial borders, the LVP tracing, and reference points on a **scanned** **bitmap image** of the echocardiogram and LVP trace. Individual lines were automatically recognized in the bitmap, values...

... were recalculated and missing data interpolated. The time functions of LVD and LVP were constructed. **Signal** averaging of **cardiac cycles** was used to increase the resolution of both functions. Characteristics of LVP and LVD functions...

... dimension loops, their cycle efficiency, dLVD/dt, dLVP/dt, etc. In total, 25 **bitmap echocardiographic images** were tested. 8% **images** required readjustment of operator marking. Of 92% processed **images**, reliable values and morphologies of cycle efficiency loops were obtained in 83% of tracings. Mean...

...Descriptors: medical **image** processing...

...Identifiers: **scanned** **bitmap image** ; ...

...**bitmap echocardiographic images** ; ...

...processed **images** ;

11/3,K/2 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

04196961 INSPEC Abstract Number: A9217-8760G-020

Title: ECG-optimized phase contrast line- scanned MR angiography

Author(s): Korosec, F.R.; Mistretta, C.A.; Turski, P.A.

Author Affiliation: Wisconsin Univ., Madison, WI, USA

Journal: Magnetic Resonance in Medicine vol.24, no.2 p.221-35

Publication Date: April 1992 Country of Publication: USA

CODEN: MRMEEN ISSN: 0740-3194

U.S. Copyright Clearance Center Code: 0740-3194/92/\$3.00

Language: English

Subfile: A

Title: ECG-optimized phase contrast line- scanned **MR angiography**

Abstract: Describes a rapid phase contrast line **scan** MR angiographic **imaging** technique. A projection angiogram is obtained by sequentially **imaging** a series of thin slices oriented perpendicular to the primary flow direction. Bipolar gradient subtraction...

... elimination of phase encoding in the depth dimension. The sequence is cardiac gated to improve **image** quality and to allow observation of hemodynamics. To further improve **image** quality, the amplitude of the bipolar gradient is altered throughout the **cardiac cycle** to provide maximum vessel **signal** at all **cardiac** phase. The ECG-gated phase contrast line **scan** sequence has been used to **image** regions where cardiac pulsatility and respiratory motion compromise the quality of **images** obtained using standard spin warp angiographic methods.

Identifiers: medical diagnostic imaging ; ...

...sequential **imaging** ; ...

...phase contrast line- **scanned** MR angiography...

... **image** quality

11/3,K/3 (Item 1 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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06037964 E.I. No: EIP02166918872

Title: **Two-dimensional myocardial strain rate estimation using "snakes"**

Author: D'hooge, J.; Bijnens, B.; Kowalski, M.; Barrios, L.; Thoen, J.; Van de Werf, F.; Sutherland, G.R.; Suetens, P.

Corporate Source: Katholieke Universiteit Leuven Medical Image Computing Dept. of Electrical Engineering, Leuven, Belgium

Conference Title: 2001 Ultrasonics Symposium

Conference Location: Atlanta, GA, United States Conference Date: 20011006-20011010

E.I. Conference No.: 59104

Source: Proceedings of the IEEE Ultrasonics Symposium v 2 2001. p 1177-1180 (IEEE cat n 01ch37263)

Publication Year: 2001

CODEN: PIEUEZ ISSN: 1051-0117

Language: English

...Abstract: off-line. The motion of the radio-frequency signal patterns within the two-dimensional sector **image** was tracked and used as the basis for strain rate estimation. Both axial and lateral...

Descriptors: Ultrasonic **imaging** ; Biological organs; Biomechanics; Cardiovascular system; Estimation; Data acquisition; **Scanning** ; Ultrasonic transducers; Acoustic arrays; Motion estimation

Identifiers: Two-dimensional myocardial strain rate estimation; Snake; Ultrasonic B-mode data; Radio-frequency **signal** pattern; Apnea; **Cardiac cycle** ; Interventricular septum

11/3,K/4 (Item 1 from file: 34)

DIALOG(R)File 34: SciSearch(R) Cited Ref Sci

(c) 2004 Inst for Sci Info. All rts. reserv.

07232173 Genuine Article#: 139PV No. References: 22

Title: Automated tracking of left ventricular wall thickening with intracardiac echocardiography

Author(s): Spencer KT; Kerber R; McKay C (REPRINT)

Corporate Source: UNIV IOWA HOSP & CLIN, DEPT MED, CARDIOL SECT, 200 HAWKINS DR/IOWA CITY//IA/52242 (REPRINT); UNIV IOWA HOSP & CLIN, DEPT INTERNAL MED, DIV CARDIOVASC DIS/IOWA CITY//IA/52242

Journal: JOURNAL OF THE AMERICAN SOCIETY OF ECHOCARDIOGRAPHY, 1998, V11, N11 (NOV), P1020-1026

ISSN: 0894-7317 Publication date: 19981100

Publisher: MOSBY-YEAR BOOK INC, 11830 WESTLINE INDUSTRIAL DR, ST LOUIS, MO 63146-3318

Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

...Abstract: by altering loading conditions and inotropic state. The backscatter signal from a single selected radial **scan** line was digitized. An automated algorithm identified the digitized endocardial and epicardial **signals**, tracked them throughout the **cardiac cycle**, and plotted the spatial difference over time. Pressure-thickness loops were generated.

Results. End-systolic...

...thickening from the unedited, unsmoothed signals compared favorably with independent manual analysis of transthoracic echocardiographic **images** of the same region: $r = 0.89$ for wall thickness and 0.81 for systolic ...

11/3,K/5 (Item 1 from file: 144)

DIALOG(R) File 144:Pascal

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Common k-space acquisition: A method to improve myocardial grid-tag contrast

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Journal: Magnetic resonance in medicine, 1997, 37 (5) 754-763

Language: English

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... does not require interchanging the read and phase encoding gradients and does not extend the **scan** time compared with a conventional grid-tag acquisition. Additionally, the means of generating grid tags...

... ratio compared a line-tag set. Computer simulations are presented along with phantom and volunteer **scans**.

English Descriptors: Motion study; Intramyocardial; Circulatory system; Contrast media; **Cardiac cycle**; **Signal** to noise ratio; **Image** analysis; Data acquisition; Duration; Feasibility; Comparative study; Nuclear magnetic resonance **imaging**; Modeling; Test objet; Human; Experimental study; Improvement

French Descriptors: Etude mouvement; Intramyocardique; Appareil circulatoire; Produit contraste; Cycle cardiaque; Rapport signal bruit; Analyse **image**; Saisie donnee; Duree; Faisabilite; Etude comparative; **Imagerie** RMN; Modelisation; Objet test; Homme; Etude experimentale;

Amelioration

Spanish Descriptors: Estudio movimiento; Intramiocardico; Aparato circulatorio; Medio contraste; Ciclo cardiaco; Relacion senal ruido; Analisis **imagen** ; Toma dato; Duracion; Practicabilidad; Estudio comparativo; **Imageria** RMN; Modelizacion; Objeto prueba; Hombre; Estudio experimental; Mejoria

Broad Descriptors: Biomedical data processing; Medical **imagery** ; Informatique biomedicale; **Imagerie** medicale; Informatica biomedical; **Imageneria** medical

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